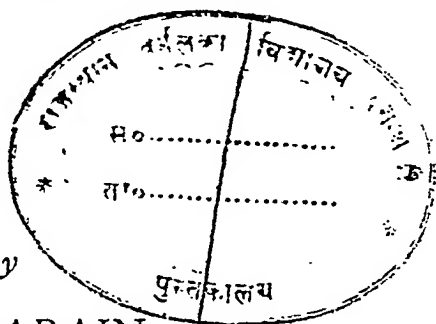


PRINCIPLES OF ECONOMICS

(FOR INDIAN STUDENTS)



by

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Professor of Economics

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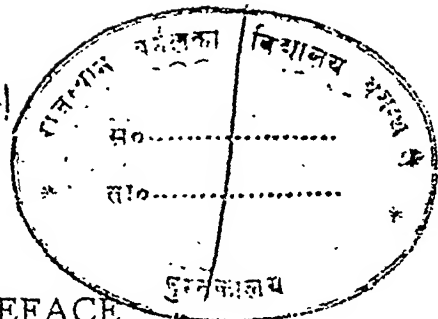
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PREFACE

I have taught principles of economics with the help of old and familiar text-books for more years than I care to remember. One did not agree with all that they said. But they possessed one merit—they were clear, and even when they upheld the system of free competition, they did not fail to mention its shortcomings.

Two years ago New Economics, by which I mean the economics of what Mr. Keynes has called the Neo-Classical School, invaded our University. I have taught New Economics for two years and am thoroughly fed up with it. It is too *doctrinaire*, unrealistic and obscure.

I have written the present work primarily to save my own students from New Economics, if that be possible.

The work, I hope, maintains contact with reality. Illustrations of economic principles have been freely drawn from Indian economic life, the U.S.S.R. and other countries.

More space has been devoted to the 'labour theory,' 'surplus value' and Marxism generally than is customary in text-books of economics. This is due to the revival of Marxism and the rise of the Soviet Union. Our students are interested in Marxism and the U.S.S.R. They have a right to be guided by teachers of economics in the study of these fascinating subjects.

The U.S.S.R. points many an economic moral. The truth about the U.S.S.R. deserves to be better known.

There are some new terms and concepts which are not found in older text-books, e.g., 'indivisibility,' 'transfer-earnings,' 'opportunity cost,' 'relative marginal utility,' 'liquidity preference,' 'forced saving,' 'marginal revenue,' 'monopsony,' and 'multiplier.' 'Income-consumption' and 'price-consumption' curves have been borrowed from Prof. Hicks. A knowledge of these terms and concepts will help the student in the study of recent economic literature.

The idea of the 'rate of change' has been explained with the help of $\frac{dy}{dx}$.

Some misprints have remained in the book, for which I crave the indulgence of the reader. Still I have reason to be indebted to the Ripon Press for detecting several 'fallacies' in the text, which were removed.

I have to thank Professors K. N. Sharma and R. K. Luthera, my colleagues, for help in preparing the MS. for the press. The language has been carefully scrutinised, and in many places improved, partly by Principal Bhupal Singh, D. Litt. of my College, and largely by Prof. R. K. Sud of the Dyal Singh College, Lahore. If the reader has any faults to find with my English, he knows who is really to blame partly, and who largely.

I will not endeavour to thank Dr. Bhupal Singh and Prof. Sud.

LAHORE :
18th June, 1941.

BRIJ NARAIN

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PRINCIPLES OF ECONOMICS

CHAPTER I

INTRODUCTORY

Economic activity is concerned with scarce goods. Scarcity must be considered in relation to wants. Air is not scarce in this sense. Goods which are not scarce in relation to wants are called free goods. They have no value or power-in-exchange.

We cannot live without air. But it is not bought and sold, or, it does not command anything in exchange for itself. While it is the most valuable gift of nature to us, it is valueless in the sense that it has no exchange value. The same is true of the sands of the desert.

All goods which are bought and sold possess value or power-in-exchange. And they are scarce in relation to wants. If they were not scarce, they would be free goods.

1. WEALTH

All goods, including services, which are scarce in relation to wants are wealth.

Why is a good wanted? Obviously because it satisfies a want. You want bread to appease the pangs of hunger. A millionaire wants a diamond because it has caught his fancy. A drunkard wants a bottle of whisky to satisfy his craving for drink. One who is resolved to take one's own life wants poison to drink. Scarce goods are wealth not only because they are scarce, but because they are useful, or because they possess utility. By utility we mean the power of satisfying a want. Whisky and poison possess utility, irrespective of the purpose for which they are used. No

moral significance attaches to 'utility' used in the technical sense in economics.

Wherever utility and scarcity are both present, value is present; where either is absent, value is absent.

Wealth thus consists of goods which possess both the attributes of utility and scarcity, or, as we have stated above, it comprises goods which are scarce in relation to wants.

Wealth is produced, exchanged, distributed and consumed. Production, exchange, distribution and consumption are the four main divisions of economics.

Economic activity is thus activity in the production, exchange, distribution and consumption of wealth.

These four divisions of economics should not be conceived as independent of each other. The four processes which they represent are carried on side by side in the same moment. They are different aspects of the same reality.

Let us take the production of cotton yarn as an example. A spinning mill consumes raw cotton. It buys raw cotton, which is an act of exchange. It pays wages to employees, rent to the landlord and interest to the capitalist on the capital advanced by him. Finally, the employer does not work selflessly—he makes a profit, which we may regard as remuneration for his services in organising production.

While wealth is being produced in the shape of yarn, cloth and other goods, wealth is simultaneously being consumed and exchanged, and every one engaged in production is remunerated for his services, or is assigned a share in the distribution of wealth.

At every moment economic activity is being incessantly carried on. The economic world never stands still.

2. THE CENTRAL PROBLEM OF ECONOMICS

We are not concerned with technical methods of production in this book. Suppose you want to set up a cloth mill or a tannery. We cannot tell you what machinery you should buy, or where you should set up your factory or how you should produce goods. These are technical questions. We are concerned with questions of a different nature. Why are goods produced? Why are they sold at certain,

prices? Prices are never stable. Why do they rise and fall?

In a barter economy there are no prices—goods are directly exchanged against goods. Price is value expressed in terms of money. But the same fundamental question has to be asked in a price economy as in a barter economy—the intervention of money makes no essential difference: Why has so much of one thing to be given for so much of another?

The price of wheat is Rs. 3 per maund, and of ghee Rs. 48 per maund. Why is ghee 16 times dearer than wheat? Why have 16 maunds of wheat to be given to acquire one maund of ghee?

This is a problem in valuation.

Let us take another example. The rate of interest is much higher in our villages than in towns. Why? The rate of interest is a payment made for the use of capital. It is the price of capital. Capital is borrowed in the form of money. Why should the same sum of Rs. 100, when lent for a period of one year, command a return of, say, six or seven per cent in a town, and 18 per cent or more in a village?

Rates of wages are different. A good singer may earn Rs. 200 or more by singing for an hour. Cinema actors in Hollywood receive fabulous salaries. But an unskilled worker in a town willingly accepts 10 or 12 annas as wages for a day's work. The rates of wages in villages are still lower. Why this difference? Why is a day's labour of an expert equal to several weeks' or months' labour of a common workman?

A wage is the price not of the labourer—for labourers are not bought and sold—but of the services rendered by the labourer, or of labour-power.

Rent is a payment made for the use of land or other durable goods. Let us think of land alone for the moment, and let us assume that land is not man-made, or no capital is invested in it or on it. Now rent paid for different pieces of land is not the same. Why is there a difference in rents? And why is rent paid at all? Again, rent rises and falls. Twelve or fifteen years ago the annual cash rent of

a square of land in the Lyallpur District of the Punjab was about Rs. 1,000. At present it is about Rs. 400. Why has rent fallen?

Like rent wages also rise and fall. In recent years industrial wages have risen. But an average B.A. is now willing to work for Rs. 30 a month, whereas thirty years ago he demanded more. Why?

The rate of profit is not exactly the same in different industries at any time, and it is not the same in the same industry at different times. When protection was granted to the sugar industry, for a year or two sugar mills paid very high dividends. In 1919 and 1920 Bombay cotton mills paid 40 per cent. and 35 per cent. dividend respectively, but in 1924 many of the mills were working at a loss. Why? Or consider industrial profits in India since 1928. In that year 308 companies earned a total profit of a little over $12\frac{1}{2}$ crores of rupees. In the year 1931 the total profits of 317 companies amounted to a little over $3\frac{1}{2}$ crores only. Or consider the price of variable yield securities. These are stocks and shares on which the rate of dividend is not fixed but varies from year to year. Let us represent the price of these securities (whatever it was) in the year 1927-28 by an arbitrary figure, 100. This is our index figure. As compared with 100 in 1927-28, the average price of variable yield securities fell to 62 in April 1932, rose to 125 in April 1937 and fell again to 98 in April 1939.

The price of a variable yield security rises when a company is paying more and falls when the company is paying less dividend, the market rate of interest remaining unchanged. During the past 12 years industrial profits in India have fluctuated violently. Why do they fluctuate at all? Why do they not remain stable or constant?

Profit is the entrepreneur's reward for his services. It may be viewed as a price for a certain kind of labour. How is this price determined? What makes it rise and fall?

Price determination is valuation. And valuation in all its forms is the central problem of economics. We have to explain not only the prices of goods, but the prices paid for the services of agents or factors of production. Rent,

wages, interest and profits are fundamentally prices. To explain these payments is the main task of economics, for the prices of most goods are made up of rent, interest, wages and profits.

3. THE FORCES BEHIND VALUATION

Ask any man in the street 'Why is ghee dearer than wheat?' and he will readily answer: 'It is a question of demand and supply.'

Let us take a more difficult case. In the year 1933-34 the average price of agricultural land per acre in the Punjab was Rs. 477, but before the annexation of the Punjab by the British in 1849, and for some years after annexation, agricultural land had practically no saleable value. In the early days of British rule an acre of land was sold in Sirsa for six annas. There is no record of sale prices of land in Moghul times. Land then was not an article of merchandise.

How did land acquire value under British rule? Demand and supply do not explain everything. You cannot maintain that there was no demand for agricultural land in Moghul times. You cannot urge that land has a price now because of peace and security. India enjoyed a long period of peace and security under the Moghul kings also.

The Moghul kings recognised rights of property in land, but proprietorship then was cultivating proprietorship. To-day you and I can buy squares of land, give them to tenants and live on their cash or grain rent. As rent increases, the value of land goes up. When rent falls, the value of land falls.

In those days tenants were few, and so also non-working landlords. The land revenue was the principal source of State income, and the State under the Moghuls, as under the Sikhs in the Punjab, could not tolerate the appropriation of a large share of the income from land by intermediaries when it could very well utilize that income itself. The produce of land was then shared between two parties only, the State and the tiller of the soil. The jagirdar had important duties to perform, and the share that went to him was the land revenue relinquished by the State—it was not an

additional imposition on the tiller of the soil.

The value of land to-day is explained by the present system of rural economy. Our system in the past was different.

The State has conferred a value upon land. The State can take it away.

Suppose the State taxed agricultural rent at the rate of 100 per cent. That would not mean the abolition of proprietary rights in land or land nationalisation, but a return to the old system of cultivating proprietorship. Agricultural land would again cease to be an article of merchandise and it would have practically no saleable value.

Important Rôle of the State in Creating Value.—The most important force working behind valuation is the State, even under capitalism.

The State creates the conditions under which value arises.

The rural rate of interest is controlled by the State directly through usury laws and indirectly through State-financed or State-subsidised institutions.

The general rate of interest is affected by Government loans. When Government issues a big loan at a high rate of interest, the supply of free capital available for industries is reduced and the market rate of interest tends to rise.

The rate of profit is influenced by Government action. When Government, compelled by financial reasons, decides to double the excise duty on a home-produced good, the profits in the industry concerned may be seriously reduced. When the State imposes a heavy protective duty on the imports of a good, a new industry is created. Profit emerges where it did not exist before.

Protective duties not only influence the prices of the goods taxed but of similar goods produced in the country and of substitutes for such goods.

Government itself is a large employer of labour. In addition Government regulates the conditions of work in factories which influence the productivity of labour and wages.

Finally, Government protects a country against the

danger of foreign invasion and maintains law and order within the country. Values which exist in times of peace alter in a period of anarchy and confusion.

There is no value or price which is not directly or indirectly influenced by the existence of the State and by State regulations.

4. THE FORM OF ECONOMY

Values also depend on the form of economy. We may consider three principal forms : capitalism, State-capitalism as in Russia, and State-controlled capitalism as in Italy and Germany.

Under capitalism means of production are privately owned, or the right of private property in means of production is recognised and defended by Government. You may own land or a factory and use these capital goods to earn an income. Secondly, there is freedom of enterprise. You may set up a factory to produce yarn, or cloth, or boots and shoes, or sugar, as you please. You may work with your own capital or found a joint-stock company. You may use your land for growing food or non-food crops, or may let it remain unused. You may till the land yourself or give it to tenants for a cash or grain rent.

This freedom of enterprise is not complete. You have to comply with Government regulations ; in certain cases you have to take a licence, as for the manufacture of intoxicating drinks or lethal weapons or armaments, or to engage in money-lending in villages. Even under capitalism Government lays down the conditions under which economic activity shall be carried on, but, given these conditions, producers are free to produce goods or not to produce them ; a labourer is free to work or refuse to work.

Liberty has necessarily to be restricted. Unlimited freedom to do what one pleased would produce unlimited chaos.

Under capitalism there is competition in the production of most goods and services, and value is governed by competition.

We shall examine the working of competition in greater detail at a later stage in this book. Here it is necessary to

note that competition results in the emergence of certain prices of goods and services.

For producers prices indicate profits or no profits. Given a certain price of cloth, a cloth mill makes a profit or a loss. A producer knows that in order to produce cloth he will have to buy raw materials, build a factory, set up machinery, engage labourers and defray other expenses incidental to the production and marketing of cloth. He will calculate if, at a certain price of cloth, it is profitable for him to manufacture cloth. If it is not a profitable proposition, he will do something else.

The desire for profit is the mainspring of economic activity under capitalism. Capital and labour tend to leave an industry which is less profitable and to enter an industry where prospects are brighter.

A rise in the price of a commodity does not necessarily mean that it is more profitable to produce it. Price may have risen because cost of production is higher than before. Similarly a fall in price may be due to technical improvements in the methods of production which have reduced cost, leaving profits as they were or even augmenting them. But, other things being equal, a rising price is usually associated with a higher and a falling price with a lower rate of profits. Producers and investors carefully watch prices. Under capitalism the change in relative prices, of the price of one good as compared with that of another, regulates the flow of labour and capital into different branches of production.

Similarly workers have a measure of freedom in choosing their occupation. We say a 'measure of freedom' because in practice the choice of a profession is limited by the cost of education and training and other circumstances. The son of a tailor may like to earn his living as a dentist, but can his father afford the cost of the requisite education and training?

Within limits, then, one may choose one's profession under capitalism. A graduate may enter the Law College and qualify as a legal practitioner, or he may choose teaching as his profession, or be satisfied with a clerical job.

Since Government does not guarantee employment, at

times the supply of certain kinds of labour may much exceed demand. This is the case with educated young men in India.

Theoretically the supply of graduates should decrease, for at the present time the cost of college education is high as compared with the salary commanded by graduates. But what else can educated young men do?

Similarly agriculture may become unremunerative over a large part of the country owing to a heavy fall of prices. Theoretically capital and labour would tend to leave agriculture and seek employment elsewhere. But employment elsewhere may not exist. What alternative occupation is there for millions of peasant proprietors, tenant-cultivators and hired agricultural workers?

5. STATE CAPITALISM

Means of production, which are privately owned under capitalism, may be nationalised. The whole economy of a country is altered thereby, and the whole scale of values changes.

Quoted below are some of the fundamental articles of the Soviet Constitution:—

Article 5. Socialist property in the U.S.S.R. has either the form of state property (property of the whole people) or the form of co-operative and collective farm (*kolkhoz*) property (property of individual collective farms and property of co-operative associations).

Article 6. The land and all that is beneath it, waters, forests, mills, factories, mines, railways, water and air transport, banks, means of communication, large state-organised agricultural enterprises, such as state farms (*sov hoz*), machine and tractor stations and the like, as well as the principal dwelling fund in the cities and industrial localities, are state property, that is, the property of the whole people.

Article 7. Public enterprises in collective farms and co-operative organizations, with their livestock and implements, products raised or manufactured by the collective farms and co-operative organisations, as well as their public structures, constitute the public, socialist property of the collective farms and co-operative organisations.

Each collective farm household has for its own use a plot of land attached to the house and, as individual property, an auxiliary establishment on the plot, the house, produce animals and poultry, and minor

agricultural implements—in accordance with the statutes of the agricultural *artel*.*

Article 8. The land occupied by collective farms is secured to them for perpetual use, that is, for ever.

Article 9. Alongside the socialist system of economy, which is the dominant form of economy in the U.S.S.R., the law allows small private farms and other enterprises of individual peasants and home-workers based on their personal labour and precluding the exploitation of the labour of others.

Article 10. The right of personal property of citizens in their income[~] from work and in their savings, in their dwelling houses and auxiliary husbandry, in household articles and utensils and in articles for personal use and comfort, as well as the right of inheritance of personal property of citizens, is protected by law.

We may ignore the forms of individual property allowed in Russia. The main idea is that land and capital are not a source of profit. Individual peasants are not allowed to earn an income by giving their small private farms on lease to others. One may, with one's savings, build a house but the house cannot be let for hire.

Inheritance is allowed by article 10 of the constitution. Where the State is the sole owner of all means of production, and is the sole employer of labour, the State creates and maintains all values. The State, owning all land and capital, directly determines all prices, including rates of wages.

The State must employ a system of cost accounting. But any good may be sold at a price below its cost of production. The loss may be borne by the general budget, or it may be made good by selling something else at a price much above its cost.

The State has also a monopoly of foreign trade. Under capitalism, the State may, for special reasons, prohibit the export or import of some goods, and the effect of protective duties is to restrict imports of the goods taxed. But under these limitations every one is free to trade with other countries. One may import toys from Japan, cotton cloth from Lancashire, coffee from Brazil, carpets from Iran, or any other good from any other country. One will import and export one thing or another, and more of one thing

* An 'artel' is a co-operative society.

and less of another according to one's expectation of profits.

But in Russia the State alone exports and imports. Russian industry may not be in a position to supply leather-boots to the whole population, but it may be decided by Government not to meet the deficiency by imports, because foreign machines are more urgently needed.

Where the State is the sole producer and employer, the State must under-take to find employment for every one.

Under State-capitalism the State has a plan for the production of wealth. If the plan works successfully, national income and wealth increase. If, on the other hand, those who plan, and those who direct the execution of the plan are incapable and corrupt, the system is liable to break down, with disastrous consequences for the whole economy and the country.

Under capitalism, it is individual capitalists, investors and producers who make mistakes and, in consequence, suffer losses and are eliminated.

6. STATE CONTROLLED CAPITALISM

The State may not nationalise land and capital, but strictly control and direct their use by private individuals. This is done in Italy and Germany. The following are some of the most important provisions of the Italian Charter of Labour, granted on April 21, 1927 :—

Article 1. The Italian Nation is an Organism having aims, life and instruments of action more powerful and permanent than those of separate individuals or groups which compose it. It is a unity in the moral, political and economic sense which is realised integrally in the Fascist State.

Article 2. Labour in all its organised and executive forms, whether intellectual, technical or manual, is a social duty. For this and this reason alone it is protected by the State.

The whole system of production is a unity from the national point of view; its objects are one, which may be briefly expressed as the well-being of individuals and the development of national power.

Article 4. The solidarity of various factors of production finds its concrete expression in the collective labour contract, through the reconciliation of conflicting interests of employers and employees, and their subordination to the higher interests of production.

Article 7. The Corporate State considers private initiative in the field of production as the most efficacious and useful instrument in the interests of the nation.

The private organisation of production being a function of national interest, the organisation of a business is responsible to the State for the direction of production. From the collaboration of productive forces is derived the reciprocity of rights and duties among them. The employee, whether a technician, clerk or workman, is an active collaborator in the economic undertaking, whose direction is in the hands of the employer, who is responsible for it.

Article 8. Trade associations of employers are under obligation to take every step to increase production, to make it more efficient and to reduce costs of production. Associations representing those who practise the liberal professions or the arts, and associations of State employees, help in the protection of the interests of art, of science and of letters, in increasing the efficiency of production and in the realisation of the moral aims of the corporate organisation.

Article 9. The State intervenes in the sphere of economic production only when private initiative is lacking, or found insufficient, or when the political interests of the State are involved. This intervention may assume the form of control, encouragement, or direct management.

There is no nationalisation of land and capital in Italy or Germany, and in theory private enterprise is free. But in actual practice property owners cannot use their property in any manner they please. Under capitalism one may choose what good or goods one will produce. But both in Italy and Germany no factory may be set up without the permission of the State. Under capitalism you may at any time decide to enlarge your works by the addition of new plant, or you may replace old machines by new. Both in Italy and Germany it is necessary to obtain the permission of the State before doing so. Further, profits above a given limit are compulsorily lent to the State—the flow of investment is thus controlled. No strikes and lockouts are permitted. The State is the final authority in the settlement of labour disputes. Nothing may be exported or imported without the permission of the State; foreign trade is under State control.

Freedom of enterprise practically does not exist in Italy or Germany, and from this point of view, there is little to choose between the Russian system on the one hand, and the economic system of Italy or Germany on the other.

To control production and prices it is necessary to organise all producers and workers into associations. The associations having been formed—it is immaterial whether we call them syndicates, federations, trusts, or by any other name—the Government is able to control both output and prices through them.

The control of output is made easier by large-scale production. The activities of millions of hand-spinners and hand-weavers are more difficult to control and direct than those of a few hundred cotton spinning and weaving mills organised in a syndicate.

It is evident that values in a society working under the severest State-regulation are different from values under capitalism.

7. ECONOMIC DECISIONS UNDER VARIOUS FORMS OF ECONOMY

Under capitalism, if you are an employee, the hours of work are determined for you by your employer, or in many cases by Government. Still you may work or choose to starve, and an independent worker can fix his own hours of work. But where the State takes the view that labour is a social duty, it may force every one to work. Under capitalism, having earned an income, you may decide how much to spend and how much to set apart for the future. This choice is open to you both under State-capitalism and State-controlled capitalism, but a difference arises in the matter of investment of savings.

Interest has not been abolished in Russia, or in Italy or Germany. In Russia one may keep one's savings in a State bank in the form of deposits, or lend them to the State. You can do that in India, and also hold your assets in other forms.

For example, you may lend money privately either in towns or villages. You may buy industrial stocks or shares. There are various kinds of stocks and shares. The debenture-holder, properly speaking, is not a shareholder. He is a lender to whom a fixed rate of interest is guaranteed. The ordinary shareholder runs the greatest risk. Between

debentures and ordinary shares there are intermediate types. One may make one's choice according to one's temperament and the risk one is prepared to run.

Let us suppose that the market rate of interest is 4 per cent, and the yield of a Government bond in which you are interested is 3 per cent per annum. The element of risk is negligible. The price of the bond will be about Rs. 75. The market rate of interest being given, the price of a security whose yield is certain, may be found with the help of the formula :

$$P = \frac{Y \times 100}{C}$$

P stands for price, Y is the yield and C the current rate of interest. Where risk enters, you will require a higher rate of interest. Where the element of the risk is the same, but dividend is higher, you will be prepared to pay a higher price.

Many people under capitalism invest their savings in stocks and shares. It is unwise to invest all one's savings in one company alone—never put all your eggs in one basket. If the stocks and shares are judiciously selected, the income, while it is safe, will be greater than the interest allowed by banks.

You may speculate on the produce or the stock exchange. A speculator is not an investor. An investor is interested in a safe net income from his investment. A speculator buys stocks and shares, or raw produce, or houses, or land, in order to sell again at a higher price.

If you buy a house, you will consider the income from the house, less the cost of repairs. Suppose the net income from a house in a year is Rs. 1,000 and the current rate of interest is 4 per cent. The income may be capitalised with the help of the formula already given.

$$\text{Price of the house} = \frac{Y \times 100}{C} = \frac{1000 \times 100}{4} = \text{Rs. } 25,000.$$

If you were interested in the house only as an investment, you will not pay much more than Rs. 25,000 for the house. But there are also other considerations. The ownership of property confers distinction. Under certain conditions one may consider house property a safer investment than other forms of investment. House property may also appreciate.

Sometimes people build a good house in their village of birth even when they will not live in it, and nominal rent will be paid by a tenant. A house is usually not left untenanted owing to the superstition that evil spirits take possession of an unoccupied house (خانہ خالی را دیو می گیرد).

Next suppose that the annual income from a piece of land is Rs. 1,000, but Rs. 200 annually is the tax to be paid. Net income is thus reduced to Rs. 800. To determine the price you will capitalise net income only and pay for the land, not Rs. 25,000 but Rs. $\frac{800 \times 100}{4} = 20,000$. In effect it means that the original seller pays the tax.

Under capitalism you may re-invest part of your savings in your own business, if you are a trader or a manufacturer.

Under State capitalism or State-controlled capitalism the choice in regard to investment of savings is more restricted.

Finally there remains the choice between different consumers' goods.

Consumers' Sovereignty.—Whatever the form of economy, goods are largely produced in anticipation of demand. The modern age is the age of the ready-made, standardised article. As a rule goods are not made according to the individual consumer's order. We may order a pair of shoes to our exact measure, but most people in towns buy factory-made shoes. Even in the domestic stage of production, based on hand-work, most hand-workers receive orders not directly from the consumer but from large dealers who anticipate consumers' demands.

We have already seen that goods are produced even under capitalism under conditions determined by Government. Consumers' sovereignty under capitalism is more imaginary than real.¹

¹The doctrine of consumers' sovereignty is a contribution of New Economics to economic theory. The contribution is of little value.

Under capitalism, says Dr. Benham, 'the consumer is king' (p. 162, 2nd ed.). Dr. Benham admits that the sovereignty of the consumer is not unlimited. Monopoly and State regulations limit it. But advertising and salesmanship do not; "In any case, a monarch may be advised and cajoled, as to some of his activities, even by his slaves, but he remains a monarch none the less." The consumer-king in India is daily advised and cajoled by

If I possess one pice, I am, in a sense, master of the world—to the extent of one pice. Every one is ready to serve me—the consumer-king—to the extent of my purchasing power.

But the desire for profit, not selfless service, is the guiding principle of economic activity under capitalism. We have no right to suppose that the desire for profit on the part of producers will necessarily lead them to give the consumer the best and the cheapest goods.

Monopolies restrict consumers' sovereignty. But even when competition is free within the country, Government may keep the cheapest and the best goods out by means of heavy protective duties.

his slaves abroad, e.g., manufacturers of standardised radio sets and bicycles, and his slaves in India, e.g., producers of vegetable ghee! It may be contended with as much show of reason that goods are produced for the sake of profit, and that the producer uses the consumer as an instrument to gain his own ends. Why are standardised goods made? Dr. Benham recognises that considerable economies are to be gained by producing large quantities of standardised goods. The explanation, therefore, is in terms, not of consumers' sovereignty, but producers' preferences. Dr. Benham attempts to get over the difficulty by saying: 'But any consumer is free to decide between buying a mass produced good at a lower price and a different type (which, if necessary, he can order) at a higher price.' How very easy! If you do not like a standardised typewriter, or bicycle, you are free to get one specially made for you! And we are also free to get along without one!

Dr. Benham over-emphasizes the contrast between a dictatorship and capitalism in this respect. He says: "Under a dictatorship it is the valuations of the dictator which determine, within the limits of what is technically possible, how factors of production are used. Under capitalism the controlling force is the valuations of consumers as shown by the ways in which they spend their money" (p. 163).

Conditions of production even under capitalism are determined by the state of technical knowledge. As the result of progress and invention conditions of production change, and such changes are not due to the exercise of consumers' sovereignty. Even under a dictatorship the use of factors of production would be determined by the income of consumers. No dictator in his senses will divert labour and capital from the production of cotton goods to that of Persian carpets when no one was rich enough to buy Persian carpets. A dictator may give the people more guns than butter, but under no form of government is the choice between guns and butter entirely a free choice for a people wishing to maintain their independence.

The doctrine of consumers' sovereignty has been discussed in the *Economic Journal* for September 1939 and March 1940.

For the sake of profit producers, by advertising and salesmanship, may mislead the consumer and persuade him to buy cheap and shoddy goods. They may practise adulteration on a wide scale. There is no monopolistic combination of producers or sellers of ghee in the Punjab, but all or most of the ghee that is sold in our towns is adulterated. It cannot be argued that because consumers buy adulterated ghee, it is precisely adulterated ghee that they want.

New Goods.—Consumer's sovereignty does not explain new articles. Many years ago the consumer-king in India did without tea, coffee, cocoa, chocolates, ice-cream, bicycles, motor-cars, motor lorries, radio sets and electricity. It would be incorrect to say that these goods were provided by his command or anticipated command. There is productive activity undertaken for its own sake, e.g., that of the poet, the painter, or the inventor. It has little to do with consumer's sovereignty, but it often results in the production of new goods which make life richer and happier. Railways and other means of rapid transportation and communication have largely contributed to make modern civilization what it is, but the whole series of inventions to which we are indebted for them were not made by consumers' orders or anticipated orders. Genius obeys no law. An idea occurs to an inventor and the world is enriched thereby. How the ideas occur no one knows.

Supposed Harmony of Interests.—The capitalist system suffers from sins of both omission and commission. The doctrine of consumers' sovereignty is based on a supposed harmony of producers' and consumers' interests. An examination of the real world, however, shows, that no such harmony exists.

Prof. Hutt, who borrowed or coined the term consumers' sovereignty, calls attention to a proverbial expression in High Dutch '*De klant is konning*'.² *Klant* (client) means customer, and *konning* is king. There is a proverbial expression in Urdu: جوتا گاہک کے سر—which, in idiomatic English, means that the customer or consumer always pays.

² *Economic Journal* for March 1940. See also *Economists and the Public*, by W. H. Hutt, Chapter XIV.

Our proverb would not seem to confer any very exalted dignity on the consumer. So far from being king, the consumer under capitalism may be regarded as the producers' milchcow.

We may believe, as Prof. Hutt does, that consumer *ought* to be king, but that is a different matter altogether.

Given a whole range of commodities (and services), the consumer may make his choice. He may buy one thing or another, and he may buy more of one thing or another.

The same choice is open to the consumer under State capitalism and State-controlled capitalism. The only difference is that the decision what to produce and what not to produce depends on the State.

If the State under State-capitalism and State-controlled capitalism is fully representative of the people, consumers' sovereignty may be better realised in these forms of economy than under capitalism. It may be doubted whether the State would give the general body of consumers adulterated ghee to consume when they preferred purer ghee. But independent producers in free competition with one another may do so, because a profit is to be made thereby.

8. ECONOMICS NOT AN EXACT SCIENCE

We have learnt the meaning of economic activity and economic choices. They all relate to scarce goods and services, or wealth. We have also seen that there are four main divisions of economic activity, production, exchange, distribution and consumption of wealth, and that all these activities are inter-related and go on simultaneously.

Economics is a systematised study of economic activity. Is economics a science?

A systematised body of knowledge is not necessarily a science. History is such a body of knowledge but history is not a science. The study of facts with which history deals has not led to the formulation of laws of universal validity.

Physics is an exact science. Physics deals with matter and forces which can be measured. Newton found that the force of attraction between two small bodies or between

two spherical bodies of any size is proportional to the product of their masses and inversely proportional to the square of the distance between their centres. This law is always and everywhere true. By an application of this law it is possible to calculate and predict the motion of the planets and their satellites with the greatest accuracy years in advance.

↖ The earth is going round the sun. Neither the earth nor the sun has any will in the matter. The earth cannot say to itself any day: "We have been going round and round the sun for millions of years. Let us take a little rest now." And because the earth has no will in the matter, we have the alternation of day and night.

The application of heat leads to the expansion of solids, liquids and gases. The rate of expansion can be measured. A telephone wire, made of iron is 1 mile long when the temperature is 0° centigrade. If the temperature were raised to 30° centigrade, its length would increase. Given that the coefficient of linear expansion of iron is 0.000012 per degree centigrade, we can easily find the change in length (original length \times change in temperature \times coefficient of expansion).

We can do so because matter is inert, without a will of its own. Under given conditions it must react in the same way, and the reaction is capable of exact measurement.

Measuring Rod of Money.—The economist possesses a measuring rod in the shape of money, but he is concerned with the activity of human beings who seem to possess a will of their own.

A musician sitting in his room suddenly bursts into song, because it pleases him to sing. This is not economic activity. Neither is the mother's devotion to her child. But a musician may be induced to give a public performance by the offer of money. For one hundred rupees he may sing; or play on a musical instrument for an hour. For 200 rupees he may be persuaded to sing or play for $1\frac{1}{2}$ hours. A choice is offered to him between work and leisure; it is an economic choice.

In economics we are almost always concerned with the action not of single, isolated individuals but of masses of

human beings. A payment is made to nurses for taking care of babies or patients in a hospital. If the rate of remuneration were raised the supply of nurses would tend to increase.

A fall in the price of a commodity generally leads to an expansion of demand. But particular individuals may not be interested in the commodity. You may not care for oranges, you prefer apples. A fall in the price of oranges may not induce you to buy more oranges, or a single orange. But there are others who would buy more with a fall and less with a rise in price.

But how much more or less? That we cannot say. Human beings are not machines which exactly repeat their movements. At one time a 5 per cent fall in price may lead to an expansion of demand by 10 per cent and at another time by 4 per cent. Or there may be no change at all.

A high rate of interest discourages borrowing and a low rate encourages it. But it is often seen in a trade depression that a fall in the rate of interest does not lead to any substantial increase in the volume of lending by banks. We may take a horse to water, but we cannot make it drink. There is a change in people's psychology, which affects their actions.

Sometimes a fall in price may actually lead to a contraction of demand. A thing may go out of fashion just because it has become cheaper.

Interaction of Cause and Effect.—Exact prediction in economics is also difficult because most economic results are due to the action of a number of causes working simultaneously, and it is not possible to isolate and separately measure the effects produced by different causes. There is interaction of cause and effect.

It is generally seen that when the quantity of money in circulation is considerably increased, all or most prices rise, or the average of all prices, taken in a certain manner which we shall explain later, is higher than before. But money may be metallic or paper. An increase in the quantity of metallic money may be neutralised by a decrease in that of paper money; and a slowing down of the rate at which money changes hands may counteract the effects of an

increase in the total quantity of money. Further, if at the same time the volume of goods increased, and more rapidly than the effective supply of money (quantity of money multiplied by the velocity of circulation) prices, instead of rising, may even fall. Now rising prices have a tendency to stimulate business. An increase in the effective supply of money, by raising prices, itself tends to bring down prices by increasing the quantity of goods to be exchanged. What is an effect counteracts the cause.

How then shall we state the relation between the quantity of money and prices? Other things being equal, a doubling of the effective supply of money will exactly double prices. This may seem an exact formulation, but what is the value of this formulation? Other things are never equal in the economic world.

'*Ceteris paribus*' or 'other things being equal' is a qualifying phrase which is often used in economics. That is alone how we may isolate the effects of a cause from those of causes working at the same time. But in real life such isolation is not possible.

The study of economic phenomena is still of value, though economic laws or statements of tendencies are not exact, Economics enables us to understand the forces working behind economic phenomena, forces which explain economic activity, forces which bring about changes of vital significance to a people or country. During the past 15 years a new equilibrium has tended to be established between the world supply and world demand for agricultural products. The terms of foreign trade have moved against India. This is a fact of enormous significance for the rural population and the country as a whole. Economic organisation is changing. New ideas in regard to the relation of the State to trade and business are taking shape. A knowledge of the forces which are slowly changing the economic world is not only of theoretical but practical interest.

In August 1931 gold was selling in India at Rs. 21-3-10 per tola. The price rose suddenly after 21st September, 1931, and at the present time (February, 1941) it is approximately double. In August 1931 the rupee was equal to about $8\frac{1}{2}$ grains of gold. Since then the gold value of the rupee

has fallen heavily. What is the meaning of these changes?

There is talk of economic reconstruction in India. The pure science of economics does not tell us how we ought to re-build economic India. It does not recommend any course of action. But theory is the basis of all practice.

9. ECONOMICS BOTH A SCIENCE AND AN ART

A positive science is concerned with causes and effects within a specified field. It explains what is. It traces effects back to their causes and projects causes forward to their effects.

A positive or pure science does not pass ethical judgments. It does not tell us to avoid evil or to accept good. It does not set up ideals of action.

Ethics is not a positive but a normative science. It is concerned with ideals of conduct, or with what ought to be.

There is a pure science of economics as distinguished from economic ethics, but in practice it is difficult to keep the two distinct. In discussing import duties, we may simply note their effects on prices, output and wages in the country imposing the duties, without pronouncing a judgment on the merits of free trade or protection as trade policies. If we do so, our point of view is that of pure economics, or that of the positive science of economics.

In discussing wages, if we may simply note that under certain conditions they are below the subsistence minimum, and point out the connection between starvation wages and inefficiency of labour, we are within the domain of the positive science of economics. The normative science of economics envisages the desirability of State regulation of wages in certain cases, and discusses the question of a 'just' distribution of wealth, or of the best form of economic organisation.

When the normative science of economics has formulated an ideal, we may discuss ways and means of realising it. Such discussion belongs to the art of economics. We may call this branch of economics Applied Economics or Political Economy.

Economics is both a positive and a normative science, and it is also an art.

10. OUR POINT OF VIEW

We have said that the central problem of economics is that of valuation. Value finds expression in a modern economy in the form of prices, and prices under free competition result from equilibrium of demand and supply. We are not merely talking of the prices of goods, but payments to agents of production. As we have seen, each of these payments is a price for services rendered.

Economics borrows the idea of equilibrium from Physics. A cone standing on its base is in a position of stable equilibrium. If we raise the cone slightly from the table on which it rests, on being released it assumes its original position again. You may have seen a toy with a light top and heavier, rounded base, which, when disturbed, oscillates from side to side for a few moments and then returns to its original position. Any body which tends to get as far as possible from its original position when disturbed is in unstable equilibrium.

The economist is constantly dealing with problems of equilibrium, for value results from an equilibrium, and it changes as the equilibrium of forces which produced it changes. A certain equilibrium of supply demand for capital produces a rate of interest in villages which is extraordinarily high. A certain relation of the supply of labour to the demand for it on tea-plantations, under given conditions, produces a rate of wages which is extremely low. Under given conditions, the equilibrium of supply and demand for land in the Punjab brings it about that over 80 per cent of the net-income from the land goes to the non-working land-owner.

Equilibrium is just an Equilibrium.—How shall we regard these and other equilibria? These are free equilibria, that is they are produced by free competition.

The pure science of economics would neither approve nor disapprove of them. It analyses the forces which produced them, and the forces which are disturbing them,

or which are tending to bring about a new equilibrium. It does not seek to condemn or justify an economic equilibrium. An equilibrium is just an equilibrium and that is all.

When a commodity is freely imported or exported, e.g., wheat, the forces determining its price are not merely national but international. The relation of world supply and world demand for wheat produces a world equilibrium and a world price of wheat. At this world price it may be unprofitable for many farmers in a country to profitably grow wheat. The home supply will then contract. It may contract almost to nothing and the country may become largely dependent on foreign sources for the supply of an essential article of food.

A convinced free trader would not be disturbed by that. In the year 1875 we used to levy a 5 per cent duty on British cotton manufactures. The Marquis of Salisbury, who was then Secretary of State for India, referred to this light duty as 'a tax which is at once wrong in principle, injurious in its practical effect, and self destructive in its operation,' and in 1877 the British House of Commons adopted a resolution, without a division, condemning our cotton duties as 'contrary to sound commercial policy.'

The free traders' point of view has remained unchanged. Free trade still remains 'the best policy.' Prof. Lionel Robbins has no difficulty in understanding 'why in countries where the level of education in economics is not high, there is a constant tendency to the approval of more and more protective tariffs.'³

But, as a matter of fact, not a single country, not even the United Kingdom, adheres to the principle of free trade to-day. And the late Mr. Chamberlain, who guided the destinies of the United Kingdom for many fateful years, is credited with the statement that "Even if the whole world returned to free trade, we could not afford to do so."⁴

We are not here concerned with the merits and demerits of free trade and protection. Our object is to show that an economic equilibrium is profoundly different from an

³ *The Nature and Significance of Economic Science* by L. Robbins, p. 153.

⁴ *The New Statesman and Nation*, November 23, 1940.

equilibrium as that of a cone. It is a matter of indifference to a cone whether it is resting on its base or on its vertex. But an economic equilibrium may result in the starvation of women and children, or it may dangerously weaken a country. Germany, before the Great War, was largely dependent on foreign countries for the supply of food, and the consequences of this dependence were disastrous for her. A country, then, in the interest of national security, may deliberately seek to disturb an old, well-established equilibrium so as to increase its political and economic strength. A high level of education in economics does not necessarily lead to the approval of free equilibria, whether brought about by the action of national or international forces.

Sweated Trades.—In sweated trades free action of supply and demand for labour results in an equilibrium rate of wages which is below the subsistence of the worker. The pure science of economics contemplates such an equilibrium with equanimity—an equilibrium is just an equilibrium. But there is nothing sacrosanct about an equilibrium. We are not called upon to sit down and worship an equilibrium because it is an equilibrium. In the United Kingdom Trade Boards are set up in unorganised, sweated trades with the power of fixing minimum rates of wages and regulating wages in general. The action of such Boards is a deliberate interference with the laws of demand and supply with a view to safeguard the interests of labour.

The Indian Labour Commission recommended the statutory regulation of wages on the tea-gardens of Assam.

The organisation of industrial labour in trade unions is due to the recognition of the fact that supply and demand for labour, when labour is unorganised, results in an equilibrium which works against the labourer. The Indian Labour Commission recognised the need for the development of trade unions: "It is in the power to combine that labour has the only effective safeguard against exploitation and the only lasting security against inhuman conditions."

In this treatise while we shall analyse the forces which produce an economic equilibrium, we shall not refrain from passing ethical judgments where necessary. Nor are sugges-

tions for improvement beyond our scope.

The theory of economics is barren if it has no light to shed on economic practice. We have no interest in any equilibrium for its own sake, but only in so far as it is related to human welfare.

Our point of view in the study of economics is therefore frankly utilitarian.

BOOK I

Consumption of Wealth

CHAPTER II

DEMAND

Goods are produced to be consumed. Consumption is the end of production.

We consume an apple when we eat it. But eating alone is not consumption. We consume a railway bridge when we use it for the purpose for which it was made. At the end of a certain period—it may be twenty or fifty years—the railway bridge is utterly consumed, or its utility as a railway bridge is finished. The materials employed in its construction, *e.g.*, wood and iron may be turned to another use.

Consumption destroys utilities, or the form of matter changes so that a good does not serve its original purpose. Matter is indestructible. Consumption only changes its form. A cigar, when consumed, leaves ash. A table, when no longer useful as a table, may be used as firewood.

1. WHAT IS DEMAND

In a modern economy no one produces all that he or she consumes. Division of labour presupposes facilities for exchange, or there will be no division of labour.

Exchange in a modern economy takes place through the intervention of money. A book-seller sells books, and uses his money-income to satisfy his wants—he exchanges the books in his shop for food, clothing and other articles of daily use, and comforts and luxuries.

Suppose you want a rare book which has not been re-printed. You want it or desire to possess it, and you express your desire to a book-seller. He will take no notice of it. But he will be decidedly interested when you make an offer, or a bid in terms of money. What you offer or bid will depend on the intensity of your desire and the

length of your purse. If there is keen competition for the book you will have to make the highest bid in order to acquire it.

Desire expressed in terms of money becomes demand. A rare book, an original painting by a master, and the *koh-i-noor* diamond are irreproducible goods. But most goods are reproducible, and one may buy more or less of them.

You like apples. At what price would you buy an apple?

You might be willing to buy one apple for even 4 as. If the price was 3 as. per apple you may be induced to buy two, and if lower still, you may buy more than two.

In the case of a rare article, of which there is a single unit for sale, demand just means what is offered for it. In most cases, however, demand may be stated as under:—

<i>Demand for Apples</i>	
Price	Quantity that would be purchased
4 as.	1
3 as.	2
2 as.	4
1 a.	6

This is your demand schedule for apples. It states the different quantities you would buy at different prices.

The demands of individuals composing a market may be combined to know the total market demand for apples, or oranges, or sugar or any other good. The same law of demand holds good for market demand as for individual demand. Generally, more is bought at a lower price and less at a higher price. A fall in price causes market demand to expand and a rise in price to contract, except in special cases. Why is that so?

2. DIMINISHING MARGINAL UTILITY

You buy an apple because it satisfies a want, or yields utility. If apples were of no use whatever, who would care for them? An apple a day, it is said, keeps the doctor away. Or one may eat apples, not for keeping the doctor away, but because one likes the fruit.

Suppose I am presenting apples to you, one after the other; they cost you nothing. How many will you consume? You greatly relish the first. It yields to you the greatest amount of satisfaction. The second, which is exactly like the first by assumption, will be enjoyed, but probably it will not yield the same amount of satisfaction as the first. The total satisfaction derived from the consumption of three apples will be greater than that yielded by the consumption of two; but the utility added by the third apple will be less than that added by the second, and so on successively. Total utility, to a point, will go on increasing, but at a diminishing rate. Finally you will have had enough of apples, and will decline to eat any more. At the point of complete satiation the utility added by the final unit is zero. If consumption is pushed beyond this point, utility is turned into disutility; which increases at an increasing rate.

It is possible that utility may begin by rising, but it is bound to fall ultimately. We may also get over this difficulty by increasing the size of the unit. One may gulp down one *laddu* of normal size after another and feel that the *laddus* give increasing satisfaction, but if each *laddu* was of the size of a football, total utility would increase as consumption increased but at a diminishing rate.

Let us set forth the facts stated above in the form of a table:

Apples	Total utility	Marginal utility
1	4	4
2	7	3
3	9	2
4	10	1

When one apple is consumed, we express the utility or satisfaction it yields by 4 units. The total utility derived from the consumption of two apples is 7 units, from 3 apples 9 units, and from 4 apples 10 units. It follows that the utility yielded by the second apple was 3 units, by the third apple 2 units and by the fourth 1 unit. The addition made to total utility when consumption is slightly increased is known as marginal utility. Marginal utility diminishes as total utility increases, or total utility increases with consump-

tion (up to a point) but at a declining rate. All apples are exactly the same.

There are no compartments in our mind in which we may separately store the utility of successive units of the commodity consumed. But we know from our own experience and from the behaviour of others, men, women, children, that with increasing consumption total utility increases at a diminishing rate. We therefore infer that successive units yield less and less satisfaction, until total satisfaction ceases to increase.

This law of diminishing marginal utility is of fundamental importance in economics. The whole theory of valuation rests on it. No mistake, therefore, should be made in understanding it.

It deserves to be emphasized that marginal utility does not decline with increase of consumption because of any change in the quality of the successive units consumed.

All apples may not be exactly the same. The apple which is of such quality that it is just worth while having it is called the apple of marginal quality. It is so-called because if its quality had been a little worse it would not have been chosen. Similarly 'marginal' land is land of marginal quality, or it is such, considering both fertility and situation, that it is just worth our while to cultivate it. If its yield were a little less than it is, or if it were more distantly situated with respect to the market, it would not be cultivated. The 'marginal' firm disappears when the price of a commodity falls. This is the firm of marginal quality which just manages to produce at a given price. The 'marginal' student is one who just manages to secure pass marks in an examination—who is on the margin. Had the standard of examination been a little stiffer, he would have disappeared among the unlucky ones who fail. In all these cases we assume differences in quality. The marginal thing is a thing of marginal quality. The marginal thing and the marginal utility of a class of things, all units of the class being of the same quality, are two different conceptions. In the example given above the fourth apple is the marginal or final apple, but it is not the apple of marginal quality. The utility added by it is the least, but

not because it is of inferior quality—it is exactly like the other three.

The law of diminishing marginal utility is true, with very few real exceptions.

Why does marginal utility decrease with increasing consumption? We do not know. All that can be said is that we are so constituted. The law is founded on our psychology, or physiology, or both.

The law is independent of economic choice between two alternatives. Observe the actions of a child of two or three, taking sugar in little handfuls out of a sugar bowl, throwing away much and swallowing the rest. No choice between eating sugar or apples, or oranges or anything else is presented to the child. There is only sugar and nothing else before it. And yet, after eating a few handfuls, the child becomes less and less eager to continue, and finally eats no more. Why? Because with increase in consumption total utility increases but at a diminishing rate, and finally ceases to increase.

Or we may consider Robinson Crusoe on a desert island on which he has just landed empty-handed. There is nothing to eat except bananas, which, we suppose, are lying on the ground and picked up without effort—the question of balancing utility against pain or labour of acquisition does not arise. If Robinson Crusoe was starving when he landed, the utility of the first few bananas would be immeasurable. Let us take a dozen bananas as the unit of consumption, or a score, or two scores—that introduces no difficulties. As Robinson Crusoe consumes one unit of bananas after another, the utility added by each successive unit will progressively decrease. Robinson Crusoe cannot help it. The law of diminishing marginal utility is completely independent of his will.

Again, in this example, there is no choice between bananas and, let us say, chocolates. There are no chocolates on the island, or anything else fit for human consumption, except bananas.

It is possible to talk of one marginal utility, or the declining marginal utility of a commodity when consumption increases, without reference to the marginal utility of any-

thing else. It is possible to do so because we are so constituted.

Ordinarily, however, we can compare utilities of different articles. When we do so, we prefer one thing to another, and there is a relation between the marginal utility of one thing and that of another. We shall discuss 'relative marginal utility' later. At present we are concerned with 'one' marginal utility.

3. MEASUREMENT OF MARGINAL UTILITY

In the table given above we represented the total marginal utility of apples by figures. What is the precise meaning of these figures?

Utility is subjective. It is a feeling of satisfaction. How can what is subjective be expressed in objective terms?

But this is done every day. You go to see a wrestling match. I ask you "What do you think of the wrestlers? Which of the two is better?" And you say: *اُنیس بیس کا فرق ہے* (the difference is equal to that between 19 and 20).

What is implied by this expression? Surely you do not imply that states of mind 19 and 20 inches or yards in length exist within you, corresponding to the strength or the skill of the two wrestlers?

The yield of crops is commonly estimated in the Punjab and many other provinces as so many annas. A bumper or normal crop is taken as 16 annas (the practice differs in different provinces), and an estimate is made of a standing crop as 10, 12 or more or less annas. The whole crop is worth a good deal more. When yields are estimated in annas we express a subjective estimate in objective terms, the meaning of which is easily understood by every one.

Or take the common sayings:—

"This is 16 annas true" (*سولہ آنے سچ*)

"I am 16 annas with you" (*میں سولہ آنے تمہارے ساتھ ہوں*)

"The patient is 8-10 annas better" (*بیمار کو آٹھ دس آنے فائدہ ہے*).

Annas, an objective standard, are very commonly employed to express degrees of psychological conviction.

If, then, subjective feelings are commonly and habitually

expressed in objective terms, we may certainly measure utility or satisfaction objectively.

4. EXCEPTIONS TO THE LAW OF DIMINISHING MARGINAL UTILITY

We have already noted one exception. The initial units of a commodity consumed may be so small that marginal utility may begin by rising as consumption increases, though ultimately it is bound to fall.

There are books whose repeated study is a source of growing pleasure and profit. The same is true of good music or contemplation of a fine work of art. In these cases it is really not the same individual who enjoys the same thing more and more. He has changed. For the same reason, as a drunkard drinks more and more he grows more and more cheerful.

The utility of articles of fashion is affected by the number and class of other people using them. Possessing two European hats I may not care for a third. But let all the topmost leaders and all others whom I know and have regard for adopt this head-dress, and up would go the utility of a third and a fourth hat.

The utility of one thing very often depends on the possession of other things. If I live in a hovel, the utility of fine Persian carpets to me is very little. But given a large, well-furnished house, the utility of carpets would rise.

In regard to rare things, the utility of a collection rises as it becomes more and more complete. If there are only three rare postage stamps of a particular country of a given date, my happiness would increase if their number in my collection increased from one to two, and from two to three.

These exceptions do not disprove the rule.

5. DIMINISHING UTILITY OF INCOME

The marginal utility of money diminishes as the amount of income increases, which leads to the conclusion that the marginal utility of money is greater to the poor than to the rich.

This assumption is the basis of progressive income taxation. Under a progressive income-tax the rate of taxation rises as the amount of income increases.

Under the existing system of income taxation in India income is divided into 'slabs' or slices. The first slice of income, Rs. 1,500, is tax-free. On the second slice of Rs. 3,500 the tax is levied at the rate of 9 pies per rupee; on the third slice of Rs. 5,000, 15 pies per rupee; on the fourth slice of Rs. 5,000, 2 as. per rupee, and on the balance, $2\frac{1}{2}$ as. per rupee. Under the old system Rs. 2,000 was the exemption limit. This has not been lowered, so that if income is Rs. 1,900, no tax is paid on Rs. 400.

Under the slab system the tax payable as a percentage of income rises steadily from 1'4 per cent on an income of Rs. 2,150 to 5% on an income of Rs. 8,000, 11% on an income of Rs. 25,000 and 12'8 per cent on an income of Rs. 30,000. Super-tax is levied on incomes exceeding Rs. 30,000.

Is it fair to tax incomes in the upper grades at a higher rate than incomes in lower grades? What justification have we to assume that the marginal utility of money to a man A earning Rs. 25,000 is less than that to a man B earning, let us say, not more than Rs. 3,000 per annum.

None whatever, says Prof. Lionel Robbins. "There is no means of testing the magnitude of A's satisfaction as compared with B's." And he continues:

"Now of course in daily life we do continually assume that the comparison can be made. But the very diversity of the assumptions actually made at different places is evidence of their conventional nature. In Western democracies we assume for certain purposes that men in similar circumstances are capable of equal satisfactions. Just as for purposes of justice we assume equality of responsibility as between legal subjects so for purposes of public finance we agree to assume equality of capacity for expressing satisfaction from equal incomes in similar circumstances as between economic subjects. But, although it may be convenient to assume this, there is no way of proving that the assumption rests on ascertainable fact."¹

¹ *Nature and Significance of Economic Science*, pp. 139-40.

Diverse methods of income-taxation.—The method of levying the income-tax in different countries is not the same. In the United Kingdom, for example, a distinction is made between earned and unearned income, and between the married and the unmarried and allowances are given for children and dependents. In addition there are heavy death duties. In India no death duties are levied, nor are the other distinctions mentioned made. Again, the income-tax levied in India to-day is not the same income-tax as was first imposed in 1886. At first the tax was levied at a flat or uniform rate of 5 pies in the rupee with a rate of 4 pies for certain classes of income. The exemption limit was Rs. 500. In 1903 the exemption limit was raised to Rs. 1,000. During the Great War in 1916, under the stress of financial necessity, graduation was introduced up to Rs. 25,000, and in 1917 came the first super-tax. The exemption limit was raised to Rs. 2,000 in 1919. The 'step' system remained in force till 1939. Under the 'step' system, the upper grades of income escaped with comparatively lighter taxation; up to Rs. 5,000 the percentage of income-tax under the, 'step' system was 3·4 while under the 'slab' system the figure rises gradually from 1·4% on an income of Rs. 2,150 to 3·3% on an income of Rs. 5,000—or incomes up to Rs. 5,000 have been granted some relief.

We may therefore admit that progressive income-taxation in different countries, or at different times in the same country, rests on diverse assumptions. It is entirely possible that a future Government of India may make the rates of the income-tax and the super-tax on upper grades of income still steeper.

But there is one assumption which is always, openly or tacitly, made wherever and whenever the income-tax is employed, viz., that the marginal utility of money to the rich is lower than that to the poor.

There is no bridge connecting the minds of A and B, and if A, with an income of Rs. 25,000, asserted that the marginal utility of money to him was actually greater than that to B with an income of Rs. 3,000, it may be impossible for us to make him think otherwise. Still A's thesis is untenable.

✓ *Utility of money to persons enjoying different incomes.*—A

beggar drops a pice in a gutter. He will look for it in the gutter for half an hour before giving up the search. You, with a bigger income, will not worry about it. A pice means nothing to you; it means bread to a starving man.

It is raining. A coolie, with an income of Rs. 10 per month, a clerk with an income of Rs. 30 per month, and an officer with a salary of Rs. 250 per month have to go to the same place of work. The coolie will walk, protecting himself with a jute sack; the clerk has possibly an umbrella, and he will walk too. But the officer, who, we assume, possesses no conveyance, will call for a tonga.

There is nothing to prevent the coolie and the clerk from ordering a tonga. But, if asked, they will say they cannot afford to spend 4 or 6 annas for the purpose. They can better spend this little amount on provisions or other necessities.²

While there is no bridge connecting the minds of A and B so that we can pass over from the one to the other for comparing the marginal utility of money, A and B, enjoying widely different incomes, behave in a way which suggests that the marginal utility of money to both is not the same.

Another indirect method of investigation is open to us. Let us watch the same individual as his income increases from Rs. 100 per month or less to Rs. 3,000 per month or more. There are many such examples. Does the marginal utility of money to him rise or fall?

Money is general purchasing power. No one, except a miser, wants money for its own sake. Marginal utility of money is the addition made to total utility as income increases by a small amount. Or we may define it as utility which would be lost by a small reduction of income. In either case we are concerned with the utility of money

² Jerome K. Jerome writes in *The Idle Thoughts of an Idle Fellow*:—('On Being Hard Up'):—"It is wonderful what an insight into domestic economy being really hard up gives one. If you want to find out the value of money, live on fifteen shillings a week, and see how much you can put by for clothes and recreation. You will find out that it is worth-while to wait for the farthing change, that it is worth-while to walk a mile to save a penny, that a glass of beer is a luxury to be indulged in only at rare intervals, and that a collar can be worn for four days."

in the shape of goods and services.

How income is spent.—When total income is small, a higher proportion of it is spent on the necessities of life. An analysis of Ahmedabad working class budgets shows that in 1926, 57·9 per cent of the income of the working classes was spent on food alone. As income rises the proportion of income spent on food declines. The same proportion for the same workers for 1933-35 was 49·31. Food, fuel and lighting, foot-wear and umbrellas, bedding and household necessities and house-rent (all items of necessary expenditure) accounted for 87·29 per cent of the total income of these workers in 1926, leaving 12·71 per cent for miscellaneous expenditure. The corresponding figures for 1933-35 are 76·42 per cent and 23·58 per cent, which shows some improvement in their economic condition during this period. In middle-class family budgets, the proportion of income spent on food and necessities would be lower, and in the budgets of the 'upper ten' lower still.

It is certainly possible for a millionaire to argue that he derives greater satisfaction from articles of luxury, e.g., a luxurious car and champagne, than a poor man from an occasional ride in a tonga or a rare lemonade. But when the same millionaire loses his millions in an unwise speculation, it is luxuries that he discards first, not necessities. It is legitimate to assume that necessities are not discarded because the money spent on them yields greater satisfaction.

We may conclude then, that, as a rule, the marginal utility of money declines as the amount of income increases. This conclusion is based upon our own experience as well as observation of the actions of others.

In special cases the marginal utility of money may rise as income increases. A clerk earning Rs. 30 per month is not able to save much, but if his income doubled, it may become possible for him to improve his prospects in life by saving enough for higher education.

In the case of a miser, marginal utility of money rises as his hoard increases. A miser loves money for its own sake.

Such special cases do not disprove the rule, and they are not an argument against progressive taxation of income.

6. MARGINAL UTILITY, LABOUR AND PRICE

Marginal, not total utility determines price. Marginal utility is the basis of value in all its form.

This has not always been recognised.

Adam Smith's *Wealth of Nations* (1775) was the first systematic treatise on political economy or economics. Adam Smith is known as the Father of Political Economy. Adam Smith, Malthus and Ricardo constitute the trinity of classical economics. Adam Smith influenced Karl Marx, whose work *Capital* is well known. What was Adam Smith's view of value?

He regarded labour as "the real measure of the exchangeable value of all commodities". This contradicts our statement that marginal utility is the basis of value in all its forms.

Adam Smith's explanation, in his own words, is as follows:—

"The real price of everything, what everything really costs to the man who wants to acquire it, is the toil and trouble of acquiring it. What everything is really worth to the man who has acquired it, and who wants to dispose of it or exchange it for something else, is the toil and trouble which it can save to himself, and which it can impose upon other people. What is bought with money or with goods is purchased by labour; as much as what we acquire by the toil of our own body. That money or those goods indeed save us this toil. They contain the value of a certain quantity of labour which we exchange for what is supposed at the time to contain the value of an equal quantity. Labour was the first price, the original purchase-money that was paid for all things. It was not by gold or by silver, but by labour, that all the wealth of the world was originally purchased; and its value, to those who possess it, and who want to exchange it for some new productions, is precisely equal to the quantity of labour which it can enable them to purchase or command."³

✓ Opportunity Cost.—Adam Smith used a simple illustration

³ *Wealth of Nations*, Book I, Chapter V.

which is often reproduced in the discussion of what is called 'opportunity cost':—

"In that early and rude state of society which precedes both the accumulation of stock and the appropriation of land, the proportion between the quantities of labour necessary for acquiring different objects seems to be the only circumstances which can afford any rule for exchanging them for one another. If among a nation of hunters, for example, it usually costs twice the labour to kill a beaver which it does to kill a deer, one beaver should naturally exchange for or be worth two deer. It is natural that what is usually the produce of two days' or two hours' labour, should be worth double of what is usually the produce of one day's or one hour's labour.

If the one species of labour should be more severe than the other, some allowance will naturally be made for this superior hardship; and the produce of one hour's labour in the one way may frequently exchange for that of two hours' in the other."⁴

• • — *Marx's Equations.*—Karl Marx made this labour theory, borrowed from Adam Smith, the basis of his theory of exploitation. Marx's equations of value are reproduced below⁵:—

- A. Elementary Form: 20 yds. of linen = 1 coat.
- B. Extended Form: 20 yds. of linen = 1 coat, or = 10lbs. of tea, or = 1qr. of wheat, or = 2 oz. of gold, or = etc.
- C. Generalised Form: (obtained by reversing B): 1 coat, or 10lbs. of tea etc. = 20 yds. of linen.
- D. Money Form: 20 yds. of linen, or 1 coat etc. = 2 oz. of gold.

We find two things exchanging for one another in certain proportions, e.g., 1 quarter of corn = X cwt. iron. "What does this equation tell us?", asks Marx. And his answer is, "It tells us that in two different things—in 1 quarter of corn and X cwt. of iron, there exists in equal quantities something common to both. The two things must therefore be equal to a third, which in itself is neither the one nor the other.

⁴ *Wealth of Nations*, Book I, Chapter VI.

⁵ *Capital*, Kerr edition, pp. 74-80.

Each of them, so far as it is exchange value, must therefore be reducible to this third."⁶

This third is socially necessary labour-time. By socially necessary labour-time Marx meant time 'required to produce the article under the normal conditions of production and with the average degree of skill and intensity prevalent at the time.'⁷ Socially necessary labour-time is thus 'congealed' or crystallised in commodities. If 20 yds. of linen = 1 coat, both can be reduced to socially necessary labour-time required for their production. They are equal because of labour; socially necessary labour-time is present in both. Since they are equal, the quantity of socially necessary labour-time which they embody must necessarily be equal. Hence Marx's conclusion that "that which determines the magnitude of the value of any article is the amount of labour socially necessary, or the labour-time socially necessary for its production."⁷

There is no essential difference between Marx and Adam Smith. The basic determining factor of value according to both is the same, labour—only Marx interprets labour as 'socially necessary labour-time.' He does so to meet an obvious objection. A pair of shoes, let us suppose, sells for two rupees = 8 grains of gold at the present time, because the socially necessary labour-time incorporated in 8 grains of gold is equal to that congealed or crystallised in a pair of shoes. Now I may spend a whole year, or two or three years in manufacturing a pair of shoes; my pair of shoes may incorporate a good deal more labour than a similar pair sold in the bazaar for two rupees, but I could not sell it for more than two rupees.

Marx refers to diamonds:

"Diamonds are of very rare occurrence on the earth's surface, and hence their discovery costs, on the average, a great deal of labour-time. Consequently much labour is represented in a small compass... If one could succeed, at a small expenditure of labour, in converting carbon into diamonds; their value might fall below that of bricks."⁸

⁶ *Capital*, pp. 43-4.

⁷ *Ibid.* p. 46.

⁸ *Ibid.* p. 47.

Again Marx is thinking in terms of socially necessary labour-time, not in terms of marginal utility.

The explanation is plausible. But consider the following 'equations':—

20 yds. of cotton cloth = 1 sq. yd. of land in the centre of
a town = 200 yds. of agricultural land.

We assume that land is not man-made, or that no capital has been invested in land. The assumption is not far removed from reality.

What is common to 20 yards of cloth and land? If their exchange values are equal, obviously cloth and land are equal to a third which is common to both. What is this third? It is not labour or socially necessary labour-time, for land was not created by labour—it is a gift of nature.

If it is contended that land was originally covered by forests and labour was involved in clearing the forest, we have still not solved our difficulty. Presumably labour involved in reclaiming land from forests was very nearly the same for all land, but why should 1 sq. yard of land in the centre of a town be equal to ten, twenty or 200 sq. yards of agricultural land? It would be ridiculous to argue that the price of agricultural land in a village is Rs. 200 per acre as compared with Rs. 20,000 per Kanal ($=\frac{1}{8}$ acre) in certain parts of Lahore because the labour of clearing the forest, several thousand years ago, in that village was 1/800th of that required for the same purpose in what is now known as Lahore.

Or 20 yds. of cloth may be equal to 5 rupees, which is the price that Mahatma Gandhi and Dr. Rabindra Nath Tagore charged for their autographs at Lahore sometime ago. It is impossible to prove that equal amounts of socially necessary labour-time are embodied in an autograph produced in a second, and a certain quantity of cloth or any other commodity which sells at the same price.

An autograph of a Moghul King may sell for a thousand rupees, and a rare book for ten thousand rupees.

An actress with a charming voice and person may be offered Rs. 100 for singing for an hour. Another singer may have undergone a harder and costlier training in music, but may not earn more than five rupees for an hour's per-

formance. The difference in earnings may be wholly due to natural charm of voice and person in the case of the actress.

We read about Soviet Commissars who pay the equivalent of seven pounds fifteen shillings a day for board and lodging at an hotel.⁹ £. 7-15 is equal to a little over Rs. 100. To earn this amount an unskilled Soviet worker would have to labour for six months in a Soviet factory. On what basis can we compare, and establish a relation between the type of organising ability represented by a Commissar and unskilled labour as of a factory workers? And how can it be shown that one day's labour of a Commissar is equal to six months' labour of the unskilled worker?

The gold value of the rupee was 18*d.* before India left

⁹Eileen Bigland writes (*The Riddle of the Kremlin*, published in White Circle books, 1940): "By the time I reached Yalta, that exquisite Crimean bay, I had come to the conclusion that the Russian hatred of Nazi Germany was a basic or almost universal emotion, therefore I received a severe jolt when I listened to General Tcherkakevsky's views on the subject. But then, just meeting him was sufficient to take the breath away—in Soviet Russia, for he descended like a whirlwind on the modest Hotel Leningrad and within ten minutes of his arrival the place was in an uproar. I was intrigued; the Commissars who stopped at the new Moscow Hotel might pay the equivalent of seven pounds, fifteen shillings a day for board and lodging and gorge caviare at each meal, their wives might wear fine fur coats, but they were proletarians who looked and behaved like proletarians and this dashing General was their antithesis. Debonair, smiling, courtly, he travelled with an imposing *entourage*, ran several motor-cars, knew a sound Tokay when he tasted one and enjoyed the society of pretty women" (pp. 69-70). We do not know the salary and allowances enjoyed by Soviet Commissars, but even if a Commissar was not able to spend more than the equivalent of £7-15 a day on all his requirements, including board and lodging, his purchasing power would be equal to a monthly salary of Rs. 3,000.

The lowest salary paid to unskilled workers in Russia in 1937 or 1938 was 80 to 100 roubles a month, say Rs. 10-12½.

The General to whom Eileen Bigland refers, travelled 'with the pomp and flourish associated with the movements of minor royalty' (pp. 73-4).

Soviet society consists of classes whose purchasing power shows extreme variations. At one end of the scale there are members of the highest bureaucracy, e.g., the Commissars and the General mentioned by Eileen Bigland, who live like princes or *raïses*, and at the other end there are unskilled workers whose purchasing power is not much greater than that of unemployed workers in the leading capitalist countries.

the gold standard on 21st September 1931. 18d.=about $8\frac{1}{2}$ grains of gold (a gold sovereign=240d.=113'00 grains of gold). At the present time a rupee is equal to about 4 grains of gold, and the price of gold per tola in India has approximately doubled. Rupee prices of commodities have risen to a much smaller extent, and some wages not at all. For a day's work you paid 8 annas to a coolie in 1930 (=4 grains of gold), and you pay the same 8 as. to-day (=2 grains of gold). It is impossible to show that the socially necessary labour-time incorporated in two grains of gold to-day is equal to that incorporated in 4 grains in 1930. Nor can any relation be established between the coolie's work, regarded as an expenditure of socially necessary labour-time, and that which gold incorporates.

Incidentally, our money may be inconvertible paper. In this case we have a measure of value incorporating a negligible amount of socially necessary labour-time. A thousand rupee note does not exchange for goods of that value because it incorporates socially necessary labour-time equal to that incorporated in goods.

Technical Displacement.—Let us for a moment go back to Adam Smith's beaver and deer, for the germs of the labour theory of value are contained in that simple illustration. If labour involved in hunting deer can be readily substituted for that involved in hunting beaver and if a day's hunt would yield 2 beaver, or three deer, beaver and deer would exchange for each other in the same ratio, that is 2 beaver for 3 deer. This is called the 'opportunity cost' ratio, since, labour being transferable from one occupation to the other, there is equal opportunity for every one of hunting beaver or deer. Those who hunt beaver are at no disadvantage in hunting deer. If less than 3 deer were offered to a beaver-hunter in exchange for 2 beaver, he may start hunting deer as well as beaver—we assume that all hunters are equally skilled in both occupations. He may devote a day to beaver, bagging 2, and the next day to deer, bagging three. He would not therefore pay more than two beaver for three deer. If the ratio tended to become 2 2, more deer would be caught, for that would mean a higher price for deer in terms of beaver; the supply,

of deer would increase which would bring down their price—or the original opportunity cost ratio would tend to be restored.

But suppose different kinds of labour and skill are required in hunting beaver and deer, so that labour involved in beaver-hunting is not a substitute for that required for hunting deer. The opportunity cost ratio vanishes.

Value in a modern community is a complex phenomenon. It cannot be explained in terms of beaver and deer. If two or a hundred different things, some of them reproducible like cloth or oranges or diamonds, and other irreproducible like land (a gift of nature) or rare postage stamps, or books, or an autograph of a Moghul King, are equal in value, we may certainly assume that they are all equal to something else which is common to them all. What is this something else but utility or want-satisfying power?

Price depends on marginal, not total utility.—We have seen that all articles of value possess two characteristics at the same time—utility and scarcity. Utility explains demand. A good may be scarce like the mythical auk. It will command nothing in exchange for itself unless it possessed utility. A good that is scarce relatively to the demand for it, will have a price. And the price depends not on its total but marginal utility.

Air possesses the greatest conceivable total utility. But if a very small quantity of air, shaking itself free from the gravitational pull of the earth, escaped into empty space, the whole world would not be plunged into grief. Particles of air are thus lost, without attracting our notice. In other words, the marginal utility of air is zero. The marginal utility of air being zero, its price is zero too. The same is true of sands of the desert.

Where marginal utility is high, value is high. The total utility of diamonds is much less than that of coal, but a single diamond may sell for a price equal to 1,000 tons of coal. The price of diamonds is high because of their high marginal, not total utility. The marginal utility of coal is low because it exists in much greater abundance than coal.

Twenty yards of cloth may be equal in price to one yard of land in a town. Their value is equal not because of equal

quantities of socially necessary labour-time congealed in them but because their utilities at the margin are equal.

There is a demand for used postage stamps. Of what use is a used postage stamp? Of no use at all—we admit, but people collect used postage stamps and are willing to pay for them. Of what use is a costly diamond worn on a ring? Why, for the price of a diamond, one may buy tons of milk and ghee, whose consumption would make a whole family healthier and stronger. But we shall not quarrel with people who waste their substance on rare things.

I should be willing to produce autographs at the rate of 1,000 per hour, but there is no demand for them. The price paid for leaders' autographs measures the marginal utility of the autographs to their collectors. But if any leader started producing tons of autographs, the price would come down. With increase in supply marginal utility would fall.

Social Marginal Utility.—The marginal utility which determines the price of any commodity is marginal utility produced by total supply in relation to total demand. It is marginal utility to society as a whole. If I offered two annas for a costly diamond, because two annas measured the marginal utility of that diamond to me, I could not get the diamond. The general relation of supply to demand determines the marginal utility of each good and each service, and price is high or low according as marginal utility is high or low.

About twenty years ago the starting salary of a College teacher in India was about Rs. 150. It is now considerably less. Thirty years ago a B.A. failed untrained school teacher could easily secure a job on Rs. 60-70. At present trained teachers are a drug in the market. The supply of educated young men has increased more rapidly than the demand for them, and their marginal utility has fallen. etc

If a high class cinema artist in India is able to earn about Rs. 1,500 per month and this is also the aggregate monthly income of 100 unskilled labourers, then the marginal utility of high class cinema artists is equal to that of 100 unskilled labourers. No comparison can be made between the labour, pain and sacrifice undergone by cinema artists and

by unskilled labourers, in the field or the factory, in the performance of their respective duties.

CHAPTER III

DEMAND CURVES

Starting from O we draw two lines, one horizontal and the other vertical, at right angles to each other. OX is called the axis of X, and OY the axis of Y.

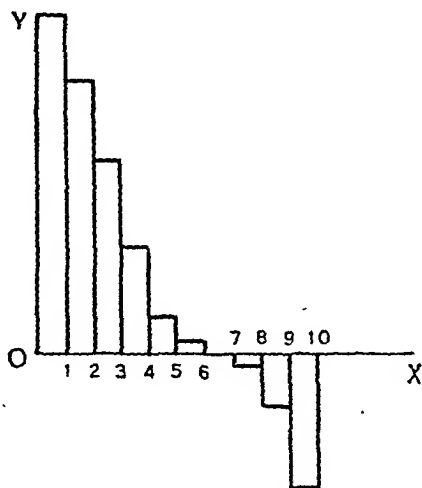


Fig. 1

Along OX we mark out equal spaces 1, 2, 3, etc. Each of these divisions represents a unit of a commodity, let us say one orange. We represent the utility derived from the consumption of each orange by a rectangle. The rectangles diminish in size and on the portion of OX between 6 and 7 there is no rectangle, which means that the consumption of the seventh orange makes no addition to total utility. Truly speaking we do not know separately the utility yielded by each successive orange. We should therefore say that when two oranges are consumed, total utility is equal to the rectangles on 0-1 and 1-2, etc. The consumption of the 8th, 9th and the 10th orange yields negative

utility or disutility. Disutility is seen to increase at an increasing rate.

1. UTILITY CURVE

Now suppose we divided 0-1 into ten equal parts, and erected rectangles on the ten parts gradually diminishing in size, and so also on 1-2, 2-3, etc. The rectangles would grow thinner. Theoretically we may make the rectangles thinner still by sub-dividing each of the original ten divisions into fifty or hundred equal parts. The rectangles would have to be represented by very thin lines, and the lines would be closely packed together. By joining the tops of the rectangles, or of the lines which are successively growing shorter, we should get a curve as shown in Fig. 2. Such a curve is called a utility curve.

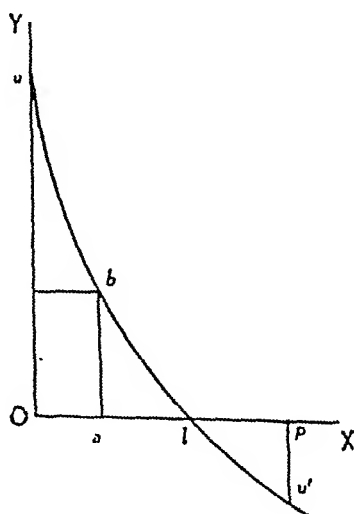


Fig. 2

Each point on this curve has a meaning. We take a point *b* on the curve and draw a perpendicular meeting *OX* at *a* (vertical distances between a curve and *OX* are called its ordinates, and horizontal distances between it and *OY* abscissæ). Then *ba* represents marginal utility of the commodity when the quantity consumed is *Oa*. When consumption increases to *Ol*, marginal utility is zero, and beyond *Ol* it becomes negative.

The curve in our diagram starts from a point on OY, which means that the utility of the first increment is measurable (Ou). When the utility of the first increment is indefinite or not measurable, the curve cannot meet OY at any point.

In Fig. 2, for Oa amount total utility is represented by the area $Oabu$ and for Ol amount, Olu . If Op is consumed total utility is equal $Olu - lpu'$.

2. RATE OF CHANGE

The curve $u u'$ in Fig. 2 slopes downwards from left to right. It shows that as the amount of the commodity increases marginal utility declines. For a given increase in amount there is a given decrease in marginal utility.

If there are two variables, x and y , and the variation of y is dependent on the variation of x , y is said to be a function of x .

The variation in x and the consequent variation in y may be conceived as infinitesimally small. Let us suppose that x increases by a very, very small amount, called dx . Then y decreases by a very, very small amount called dy . $\frac{dy}{dx}$ expresses the rate of change of y with respect to x .

y may increase with x .

We begin with the simplest form of a curve, a straight line. A straight line is a curve with curvature zero. The equation of a straight line is :

$$y = a + bx.$$

Suppose $a=2$, and $b=1$. We can easily calculate the values of y for different values of x .

When x is equal to zero, $y=2+1 \times 0=2+0=2$.

When x is equal to 1, $y=2+1 \times 1=2+1=3$.

When x is equal to 2, $y=2+1 \times 2=2+2=4$ and so on.

x	0	1	2	3	4	5
y	2	3	4	5	6	7

Next suppose that $a=2$, and b is also equal to 2. Calculate the values of y as before.

$$y=a+bx; a=2, b=2.$$

x	0	1	2	3	4	5
y	2	4	6	8	10	12

Next suppose that $a=2$ and $b=\frac{1}{2}$. We get the following values of y .

x	0	1	2	3	4	5
y	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$

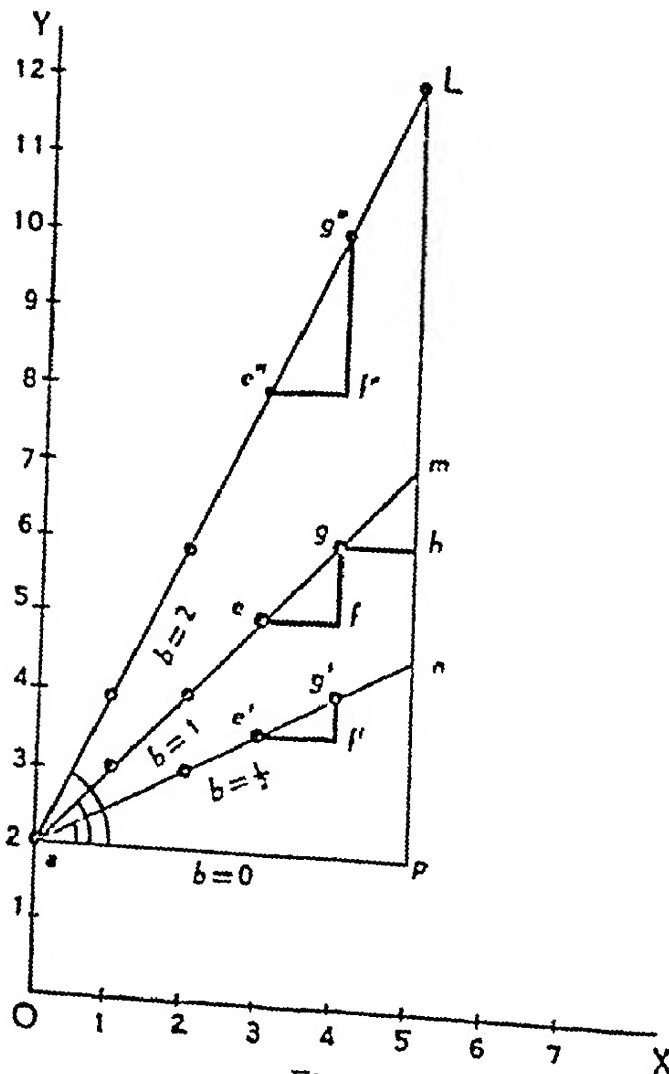


Fig. 3

Finally let us calculate the values of y when $a=2$ and $b=0$.

When $x=0$, $y=2+0 \times 0=2+0=2$.

When $x=1$, $y=2+0 \times 1=2+0=2$.

When $x=2$, $y=2+0 \times 2=2+0=2$ and so on.

The four curves are plotted in Fig. 3. The same scale is chosen for x as for y . All the four curves begin from $a(=2)$ on the Yaxis. The constant a has nothing to do with the rate of change of y with respect to x . It only tells us where the curve meets the Yaxis. If a were 3 in all cases, all curves would begin from the point marked 3 on the axis of Y . If a were zero, all curves would begin from the origin O .

Let us now study $y=a+bx$, when $a=2$, and $b=1$. The straight line is represented by am in our figure.

am slopes down from right to left. The slope of a curve from right to left shows that y increases with x . We have already seen that when a curve slopes down from left to right, y decreases as x increases.

What is the rate of change in the case of the curve am ?

This we can most easily calculate. When x increases from 0 to 5, y increases from 2 to 7. The whole increase of x is the horizontal line ap , and the increase of y the vertical line mp . $\frac{mp}{ap}$ is the tangent of the angle which the

line am makes with the line ap . The angle is of 45° .

When x increases from 3 to 4 or from e to f , y increases from 5 to 6, or by fg . By measurement we discover that $ef=fg$. Similarly $gh=mh$. For the curve am the rate of change for any two points, or $\frac{dy}{dx}=1$. The meaning is that

for an increase of a given magnitude in x there is an increase of the same magnitude in y .

Next consider the straight line al . The total increase of y is pL for the total increase of x , ap . When x increases from 3 to 4, or from e'' to f'' , the increase of y is $g''f''$, or twice as great as that of y . We recall that b in this case is equal to 2. When $b=\frac{1}{2}$, a as before being equal to 2, the rate of increase of y for a given increase of x is $\frac{1}{2}$. This may again be verified by actual measurement.

When $b=0$, we get the straight line ap . It neither rises nor falls, but runs parallel to the axis of X . The increase of y for a given increase of x or $\frac{dy}{dx}$ in this case is zero.

In the cases we have considered dx and dy are not infinitesimally small. For purposes of explanation we had to make them perceptibly large. But we may make them as small as we like. The relation of dy to dx would not change on that account.

In Fig. 4, for example, the relation of $g'f'$ to $e'f'$, of $g''f''$ to $e''f''$, of $g'''f'''$ to $e'''f'''$ is the same as that of gf to ef .

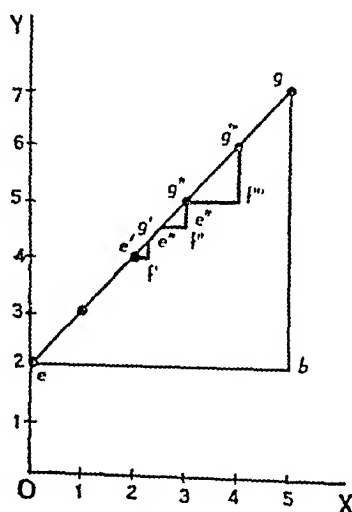


Fig. 4

Each of the curves an , am , al in Fig. 3 rises with a uniform slope, or the slope at all points on each of the three curves is the same.

Let us next take a straight line sloping down from left to right.

$$y = a + bx, \text{ when } a = 1, \text{ and } b = -1.$$

$$\text{When } x = 0, y = 7 + (-1 \times 0) = 7 - 0 = 7.$$

$$\text{When } x = 1, y = 7 + (-1 \times 1) = 7 - 1 = 6.$$

$$\text{When } x = 2, y = 7 + (-1 \times 2) = 7 - 2 = 5 \text{ and so on.}$$

x	0	1	2	3	4	5
y	7	6	5	4	3	2

These values of x and y are shown in Fig. 5. As x increases by a given magnitude dx , y decreases by an equal magnitude dy , and there is the same relation of dy to dx for all points on the curve.

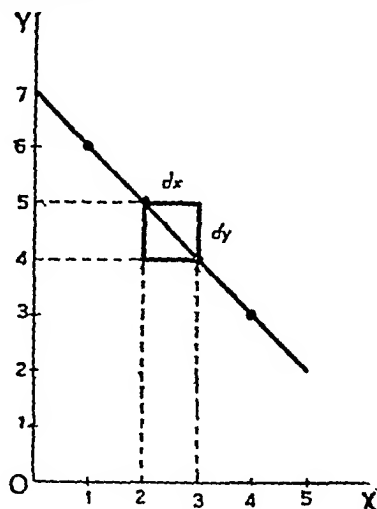


Fig. 5

So far we were concerned with straight line curves. But a curve may not be a straight line. Consider for example Fig. 6.

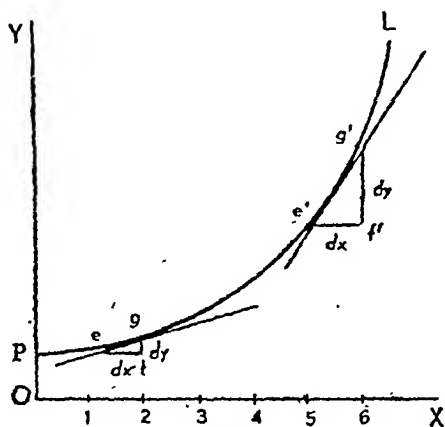


Fig. 6

The slope of the curve is not uniform. Between the points e and g the curve is rising less steeply than between the points e' and g' . The increase of y (dy), as may be seen by measurement, when x increases from 1 to 2 (dx) is less than half of the increase in x , but when x increases from 5 to 6 the increase of y or dy is about twice as great as that of x . The slope of a straight line is the same at all points, but not of a curve which possesses curvature.

Slope of a curve at a point.—As in the case of an ascending straight line, in the case of the curve PL in Fig. 6, $\frac{dy}{dx}$ measures the slope of the curve between any two points. Between e and g the curve is very nearly a straight line. But between e' and g' it has various degrees of slopes—the line $e'g'$ is not a straight line, and properly speaking we are not entitled to speak of one slope of PL between e' and g' shown by $\frac{dy}{dx}$. We may get over the difficulty by taking a smaller portion of the curve between e' and g' . The points e' and g' may be taken so near each other that the portion of the curve which they enclose becomes practically straight. Then $\frac{dy}{dx}$, or the ratio of increase of y to the given increase

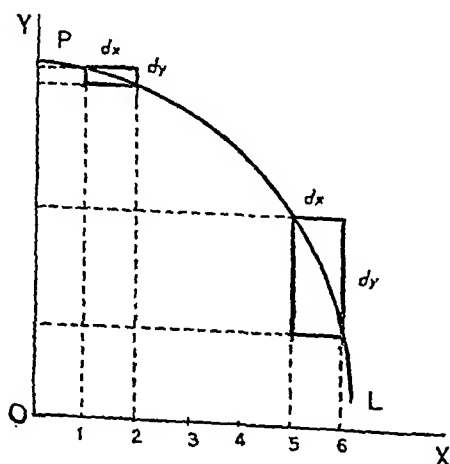


Fig. 7

of x between e' and g' , would indicate the slope of the curve between e' and g' . We may theoretically make $e'g'$ indefi-

nitely small, so that the straight line $e'g'$ when produced on either side will touch the curve at practically one point only. It then becomes the tangent to the curve at that point. Thus $\frac{dy}{dx}$ is the slope of the tangent to a curve at a particular point.

Various types of curves are employed in economics for illustrative purposes. The reader should get familiar with them.

PL in Fig. 7 is concave to the origin, or its inner, concave or hollow side faces O. This curve may as well represent

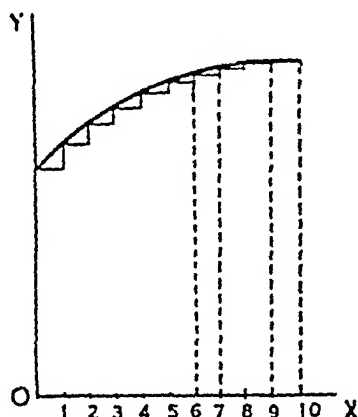


Fig. 8

diminishing marginal utility as a curve sloping to the right which is convex to the origin, as uu' in Fig. 2. If PL were a utility curve, it would show that the rate of decline of marginal utility with increase of consumption increased progressively—there is a much greater fall in marginal utility when consumption increases from 5 to 6 units than when it increases from 1 to 2 units. We assume that the utility of the first increment is measurable.

In Fig. 8 the rate of increase of y to that of x or $\frac{dy}{dx}$ grows less and less until finally it drops to zero when the curve becomes a straight line.

In Fig. 9, $\frac{dy}{dx}$ first grows less and less, becoming 0 between a and b , and then steadily increases.

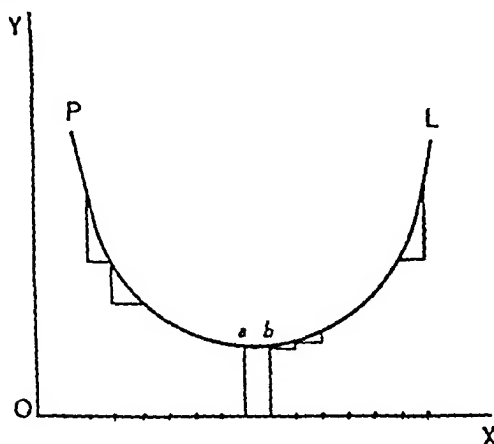


Fig. 9

In Fig. 10, y increases up to the point a ; between a and b , $\frac{dy}{dx}=0$, and beyond b , dy is a step down for every increase of x .

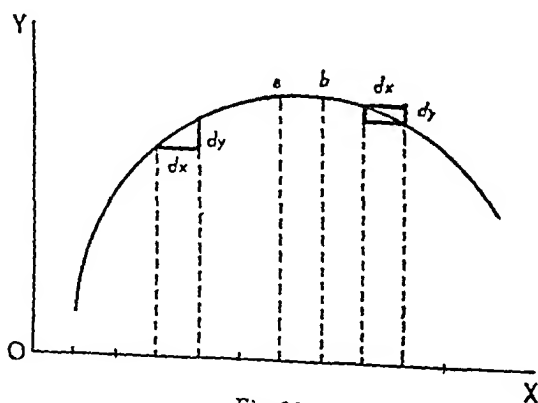


Fig. 10

We shall make use of these curves in discussing the variation of supply and demand with price. It is not necessary that when a curve is ascending or descending it should ascend or descend regularly. It may assume various shapes, as for example in Fig. 11 or Fig. 12. In Fig. 13, y increases

slowly at first, then rapidly and finally ceases to increase with x . This is a famous curve illustrating the law of growth of population in certain countries of the West.

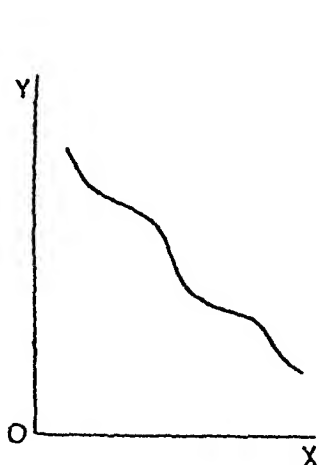


Fig. 11



Fig. 12

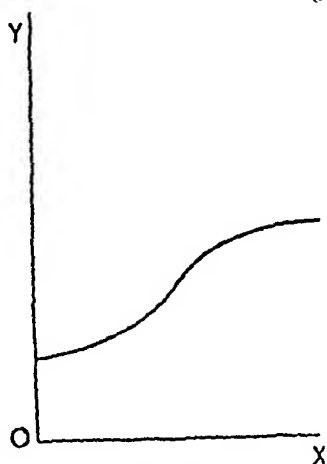


Fig. 13

3. INDIFFERENCE CURVES

We have argued that it is possible to talk of one marginal utility only. That is not to deny that the marginal utility of one good is related to the marginal utility of other goods.

Vilfredo Pareto wrote long ago:—

"The interdependence between different branches of exchange and of consumption can be simply explained if we suppose that *ophélimité* of a good depends not only on the quantity of this good that has been consumed, but also those of other goods consumed."¹

By *ophélimité* Pareto meant want-satisfying power of a good—what we have called utility in the special sense. The word utility in economics has not precisely the same meaning as in ordinary language. To avoid confusion, Pareto used *ophélimité* in the place of utility.

"Are diamonds useful to the human race?" asks Pareto. "One may equally argue the case for and against the proposition. But there is no doubt at all about their *ophélimité* for a great number of persons."²

Pareto did not object to talking about one marginal utility. "A man who is thirsty drinks his first glass of water with the greatest pleasure, the second glass with less pleasure, and the third with still less pleasure."³

But Pareto recognised that goods may be substituted for each other. Man wants food as nourishment. But one article of food may be substituted for another. There are three articles of food (to take Pareto's example), meat, bread and potatoes, A, B and C respectively. A is superior to B, and C is inferior to B in food value; A is more expensive and C less expensive than B. Given his means, an individual buys a certain quantity of the commodity B, bread. He does not buy meat because his purse does not allow it; he may replace bread by potatoes, but he does not do so as he possesses the means of buying bread.

It follows that if his income changed, or the prices of A, B or C changed, he would substitute A for B, or C for B, or consume more of one and less of the other.

When we consider the marginal utility of one good in relation to the marginal utility of another good which may be substituted for it, we translate the marginal utility theory

¹ *Cours D'Économie Politique*, Para. 693.

² *Ibid.*, Para. 6.

³ *Ibid.*, Para. 9.

into terms of indifference curves. This was first attempted by J. R. Hicks and R. G. D. Allen in the *Economica* of Feb. 1934. J. R. Hicks has further elaborated the theory of subjective value in his *Value and Capital* (1939).

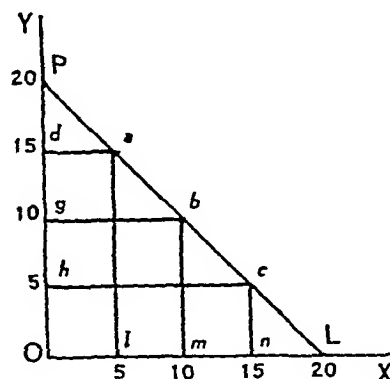


Fig. 14

In Fig. 14 we measure x along the axis of X and y along the axis of Y . There are two commodities only, x and y , and no third. The indifference curve is the straight line PL , but we cannot talk of $\frac{dy}{dx}$ in the case of a straight line when it has been named an indifference curve, for now it does not show the variation of y with x .

PL consists of a series of points. Each of these points represents a combination of x and y which is equally estimated by an individual. For example, a signifies Ol units of x and Od units of y . The same scale has been chosen for x and y . The individual concerned would have 5 units of x and 15 units of y . He would with equal willingness accept another combination of x and y , indicated by the point b , bg units of x ($=Om$) and bm ($=Og$) units of y , x and y are perfect substitutes, for if our supposititious individual were given Om units of x (10 units according to the scale) and Og units of y (also 10 units), the total units of x and y in his possession would be 20, which would also be the case if he chose 5 units of x and 15 units of y , or 15 units of x and 5 units of y . For

one more unit of x or y , he is willing to part with one unit of the other commodity. We may start him with 10 units of each commodity. If the rate of exchange is one unit of x for 1 unit of y , then he may, with equal readiness, increase his stock of y to 12, thereby reducing his stock of x to 8, or increase his stocks of x to 12, thereby reducing his stock of y to 8.

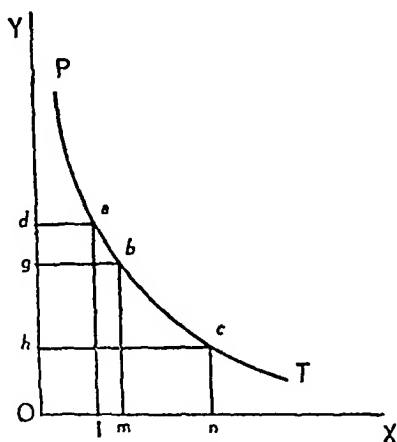


Fig. 15

Fig. 15 shows an indifference curve, convex to the origin and sloping down to the right. The slope of the curve is not uniform throughout its length.

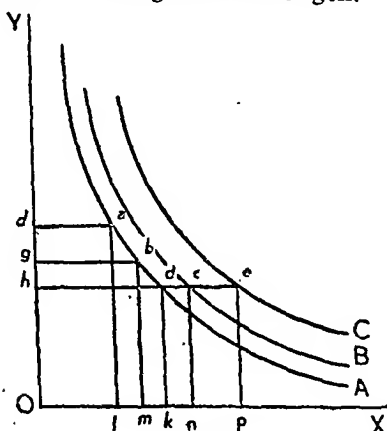


Fig. 16 -

The meaning of the points on the curve (Fig. 15) is the same as in the previous case. An individual would have Ol of x and Od of y , or with equal willingness Om of x and Og of y , or On of x and Oh of y . It is a matter of indifference to him whether he has a combination indicated by the point a , or b , or c , or any other point on the curve. For this reason PT is an indifference curve.

If we had a series of indifference curves pertaining to the same individual and the same two commodities, we have obtained what is called his indifference map. Fig. 16 shows three indifference curves A , B and C , one rising above the other. Each of these curves is composed of points with the meaning that has been explained.

d is a point on the curve A . The individual whose choices we are considering would, with equal willingness, have Ok of x and Oh of y , or Om of x and Og of y . But he would prefer to have On of x and Oh of y ; c is on a higher indifference curve. And still more, he would prefer to have Oh of y and Op of x ; e is on a still higher indifference curve. Any number of such indifference curves may be drawn. A higher indifference curve shows preferred positions as compared with a lower indifference curve. As compared with a lower indifference curve a higher indifference curve is a preference curve. But at the same time it is an indifference curve, for it consists of a series of points, each indicating combinations of x and y which our individual would accept with perfect indifference.

Suppose at our bidding you return to your childhood when you used to play with tops and marbles. We give you 3 mechanical tops and 100 marbles.

Fig. 17 shows two indifference curves. We measure marbles along OX and tops along OY . The curves represent the following data:

Curve A		
Tops and Marbles		
5	"	28
4	"	50
3	"	100
2	"	169
1	"	280

Curve B		
Tops and Marbles		
5	"	54
4	"	80
3	"	127
2	"	200
1	"	340

You are allowed to exchange tops for marbles with your playmates, and the rate of exchange that has become

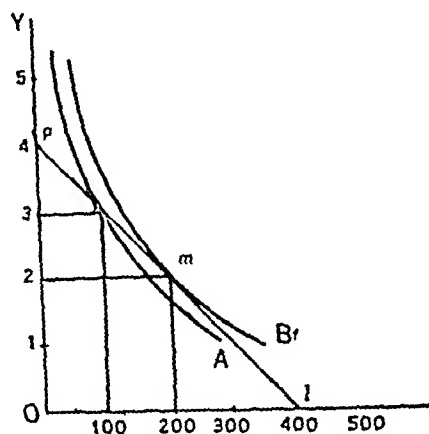


Fig. 17

established (shown by the straight line pl) is 4 tops for 400 marbles, or 1 top for 100 marbles. This being the established rate of exchange no one will give more than 100 marbles for one top, and no one will take less.

We gave you 3 tops and 100 marbles. According to your indifference curve A you are prepared to part with 1 top, reducing the number of tops in your possession to two, for 69 marbles. For it is a matter of indifference to you whether you have 3 tops and 100 marbles or 2 tops and 169 marbles. But the rate of exchange allows you to acquire 100 marbles by parting with one top. You do so, and consequently have 2 tops and 200 marbles. You are no longer on the indifference curve A , for there is no point on the curve A which gives you a combination of 2 tops and 200 marbles. But the point m on the indifference curve B represents a combination of 2 tops and 200 marbles. You have thus moved from indifference curve A to indifference curve B , by substituting 100 marbles at the current rate of exchange for 1 top.

4. MARGINAL RATE OF SUBSTITUTION

When we are concerned with two goods x and y which may be substituted for each other, we may speak of the marginal rate of substitution of y for x , or of x for y . In our example the marginal rate of substitution of marbles for tops is the quantity of marbles which would just compensate you for the loss of one top. Given the allotted quantity of 3 tops and 100 marbles, the quantity of marbles which would just compensate you for the loss of one top is 69. This is the marginal rate of substitution of y for x in your case. It is really the marginal utility of y in terms of x .

According to the indifference curve in Fig. 17, the combination of 5 mechanical tops and 28 marbles is of the same value to you as 4 tops and 50 marbles. This means that if you had 5 tops and 28 marbles, by giving up one top for 22 marbles, you would be neither better off nor worse off than before. Would you be prepared to part with a second top for 22 marbles? No. But supposing one mechanical top was equal to 4 ordinary tops, then you would be willing to give in exchange for 22 additional marbles, not one unit of x (one mechanical top) but less than one (let us say not 4 but 2 ordinary tops). To acquire successive units of x (22 marbles) you would part with diminishing units of x . We thus reach the conception of diminishing marginal rate of substitution of x for y as more and more x is substituted for y .

Or we may talk of increasing marginal rate of substitution of y for x . Having 5 tops you are willing to part with one top for 22 marbles, but when your stock of tops is reduced to 4, you would require 50 marbles before surrendering one more top; with 3 tops and 100 marbles, you would require the inducement of 69 marbles to give up one more top; and left with 2 tops and 169 marbles, you would ask for not less than 111 marbles before giving up one of the two remaining tops. As the number of tops in your possession decreases, the marginal rate of substitution of marbles for tops increases.

Diminishing marginal rate of substitution of x for fixed

units of y is increasing marginal rate of substitution of y for fixed units of x .

More clearly, as you have less and less tops, their marginal utility rises, and as you acquire more and more marbles, their marginal utility falls. Therefore having 2 tops and 169 marbles you will not part with one top for the same number of marbles as you did when you had 3 tops and 100 marbles. The marginal utility of tops to you is higher and that of marbles lower than before.

Fig. 17 shows two indifference curves only. But any number may be drawn cutting the line pl at various points. The most advantageous position is shown by the point m where an indifference curve does not cut but meets the line pl , or the rate of exchange. An indifference curve which does not touch pl at all may be higher still, but given the position of the line pl , or the rate of exchange that pl represents, you cannot move on to the higher curve—it does not touch pl .

5. INCOME-CONSUMPTION CURVE

Suppose your income consists of a given quantity of x .

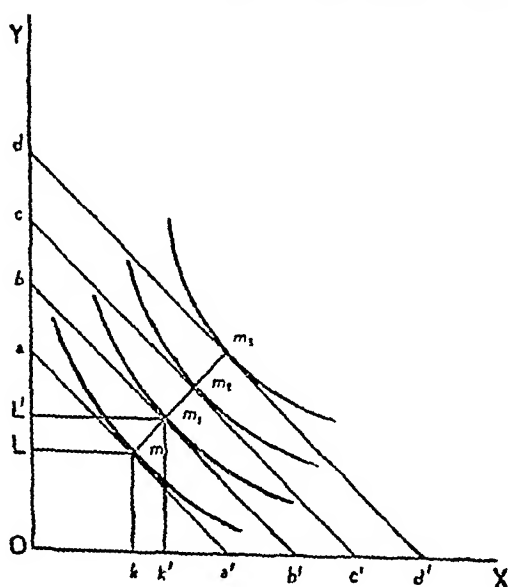


Fig. 18

Oa' , measured along the X-axis in Fig. 18 or a given quantity of y , Oa , measured along the Y-axis. The rate of exchange, or the price of x in terms of y is shown by the slope of the line aa' . An indifference curve touches aa' at the point m . Then the position of maximum advantage for you is indicated by Ok of x and OL of y .

Suppose your income in terms of commodity y increased from Oa to Ob . The rate of exchange remains unchanged—or the slope of the line bb' is the same as that of aa' . $\frac{dy}{dx}$ is precisely the same in all four cases. The straight lines bb' , cc' and dd' being parallel to aa' , the decrease of y for a given increase of x is the same in all cases. An indifference curve touches the line bb' at the point m_1 . It follows that the best distribution of your income now is Ok' of x and OL' of y , and so on. We thus get the income-consumption curve mm_3 .

6. PRICE-CONSUMPTION CURVE

In Fig. 18 we assumed that the rate of exchange, or the

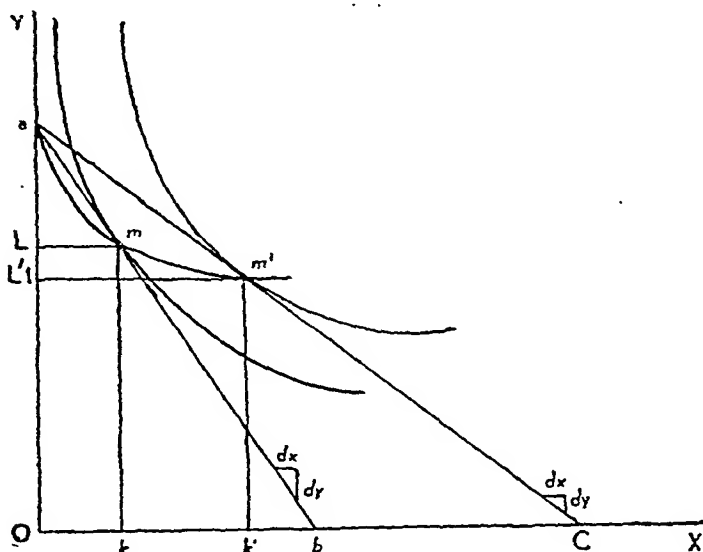


Fig. 19

price of x in terms of y was fixed, but that income in terms

of $y(Oa)$ increased from Oa to Ob etc. In Fig. 19 we suppose that income remains fixed, Oa , but the price varies, as shown by the different slopes of aC and ab . When the price of x in terms of y falls, a greater quantity of x can be obtained for a given quantity of y . The curve aC shows that x has become cheaper, or that the same quantity of $x(dx)$ can be bought for a smaller quantity of $y(dy)$.

Income being fixed, when x becomes cheaper, the position of greatest advantage changes from m to m' . When the price was represented by the slope of ab , the individual to whom the indifference curves relate, was prepared to consume Ok of commodity x and OL of commodity y , spending out of his total income of Oa , aL in acquiring x . When the price of x in terms of y falls as shown by the slope of the line aC , the position of greatest advantage is m' , and the individual would consume Ok' of x and OL' of y , spending aL' of his total income in acquiring Ok' of the commodity x . On account of the cheapening of x , he has been able to acquire kk' more of x by spending LL' more of his income.

Income-consumption and price-consumption are terms used by Prof. Hicks. These curves may also be called expenditure curves.

7. RELATIVE MARGINAL UTILITY

The foregoing discussion should have helped the reader to grasp the conception of relative marginal utility. Instead of measuring the marginal utility of a good by itself, we consider its marginal utility in relation to the marginal utility of another good which can be substituted for it. We thus interlock two marginal utilities and speak of increasing or decreasing marginal rate of substitution instead of diminishing marginal utility of a good when its consumption, taken by itself, increases.

It has been explained before that it is possible to talk of diminishing marginal utility of one good only, for the law is based on human nature. If nothing else existed in the world except apples, increased consumption of apples, or anything else, would be governed by the law of diminishing marginal utility—human nature being what it is.

There is also another reason why, in the rest of the book, we shall talk in terms of one marginal utility and not in terms of increasing or decreasing marginal rate of substitution.

In a modern economy, while we constantly compare the utilities of different goods, the comparison is generally made in terms of money. Income is earned in money; the value of goods on which money income is spent is expressed in money. Where money is unknown and income consists in x , or y , or given quantities of both, the price of x is y , and of y , x ; we then think of the marginal utility of y in terms of x and of x in terms of y , and directly substitute x for y or y for x . In a money economy, however, all marginal utilities are measured in terms of money, and the substitution of one good for another also takes place through the intervention of money.

This point should never be forgotten. In talking of the marginal rate of substitution of x for y , or of y for x , we depart from reality. Except under barter, which is exchange without money, we seldom compare the utility of butter and ice-cream directly. We may have been consuming too much ice-cream and too little butter, but then we cut down our expenditure on ice-cream and increase our expenditure on butter. In the end we have substituted butter for ice-cream, but the calculation which leads to the change is made in terms of money. If too much money is spent on ice-cream, the marginal utility of money spent on ice-cream is low; if too little money is spent on butter, the marginal utility of money spent on butter is high. We equalise the marginal utility of money in the two cases by consuming less of the one and more of the other good. The argument generally runs thus: "It is not worth spending so much per week on ice-cream, or cigarettes, or the cinema. It is worth spending more on butter, or milk or fruits."

Money is general purchasing power. In actual life we compare the utility of money, representing purchasing power over all goods and services, with the utility of the particular good or service on which we are thinking of spending the money.

It occurs to you to buy a bicycle. Well, a bicycle costs sixty rupees, not an inconsiderable sum of money. If you

were not buying a bicycle you would spend this money on books or clothes. You weigh the utility of books or clothes against the utility of a bicycle and decide that books or clothes are more important in given circumstances. The comparison is made in terms of prices.

It is when a large sum of money is involved that we deliberate whether it is worth our while to incur the expenditure. Most often small sums are spent without any comparison of the utility of the object bought with the utility of any other object that might have been bought. A smoker, with a large income, may smoke cigarettes or cigars until their marginal utility (or the marginal utility of money spent on them) drops to zero.

CHAPTER IV

DEMAND: LAW OF SUBSTITUTION, ELASTICITY OF DEMAND AND CHANGES IN DEMAND

The law of substitution is equal in importance to the law of diminishing marginal utility.

In spending a given income our object is to spend it in such a way as to maximise our total satisfaction. Total satisfaction is greatest when marginal utilities of the goods consumed are equal. This is shown in Fig. 20.

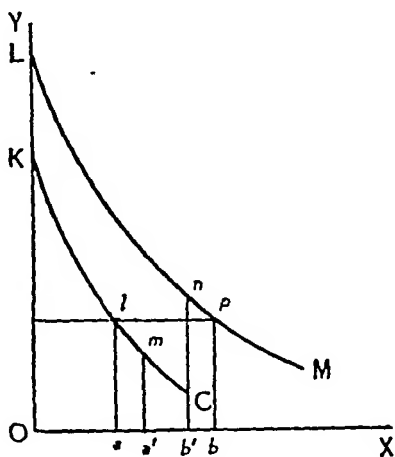


Fig. 20

There are two commodities, chocolates and milk. The total sum of money at our disposal is fixed, it is $Oa + Ob$. Utility is measured along OY . If we spend more money on chocolates, we can do so only by curtailing the consumption of milk.

The curves KC and LM are not indifference curves. They show how the marginal utility of chocolates and milk

declines with increase in consumption.

When Oa money is spent on chocolates and Ob money on milk the marginal utilities of chocolates and milk, measured along the axis of Y , are equal. The total utilities are: $Oalk$ for chocolates and $ObpL$ for milk.

Suppose now we spend aa' more money on chocolates. The marginal utility of chocolates falls from al to am . But since the total sum of money at our disposal is fixed, we are compelled to reduce the expenditure on milk by an equal amount, bb' ($aa' = bb'$). The marginal utility of milk rises from bp to $b'n$. The marginal utilities of milk and chocolates are now unequal. Total satisfaction has not been increased but reduced by the supposed redistribution of expenditure. For when aa' more money is spent on chocolates, the gain of utility from chocolates is $aa'ml$; when the expenditure on milk is reduced by bb' , the loss of utility is $bb'np$, which encloses a bigger area than $aa'ml$.

Any other re-distribution of expenditure which made marginal utilities of the two commodities unequal, would reduce total satisfaction.

Ignoring small gains or losses of utility to which the consumer is indifferent, money is spent so as to make marginal utilities of different goods consumed, or the marginal utility of money in different uses, equal (the marginal utility of money is the marginal utility of what money buys).

Obeying this law, the consumer substitutes one form of enjoyment for another, e.g., a book for a cinema show, or fruits for milk. Without ever having heard of the law of substitution or equi-marginal returns all of us act according to it.

1. HERMANN HEINRICH GOSSEN

It is now time that the reader was introduced to Gossen, who first formulated the laws of diminishing marginal utility and substitution, on the basis of which the whole of modern economic analysis rests.

Gossen thus stated the principle of diminishing marginal utility :

"The magnitude of one and the same satisfaction, when

we continue to enjoy it without interruption, continually decreases, until satiation is reached."

Gossen does not expressly mention 'marginal' or 'final' utility. But his meaning is plain. Satisfaction which continually diminishes with continued, uninterrupted enjoyment is not total but marginal utility.

Gossen's formulation of the law of substitution runs as follows:—

"A man who is free to make his choice between several satisfactions, but who has no time to enjoy all of them completely, must enjoy them partly, irrespective of the differences in the absolute magnitudes of individual satisfactions, in order to make total satisfaction maximum, and, indeed, in such a proportion that the magnitude of each individual satisfaction, when its enjoyment is broken off, is equal to that of the others."¹

This is in essence the law of substitution or equi-marginal satisfactions, perhaps the most important of the laws of economics.

Gossen was born in 1810 at Duerren in Germany. He was fond of mathematical studies, but, following his father's wishes, he studied law, and became Government Assessor, or official receiver, at Cologne in 1844. When his father died at the end of 1847, Gossen resigned Government service and lived in retirement mostly at Cologne. His book entitled *Explanation of Laws of Human Intercourse and Rules of Human Behaviour Deduced Therefrom* appeared in the summer of 1854. Gossen had expected that the book would immediately give him the fame of a Copernicus, but no one took any notice of it. Disgusted with the indifference with which his work had been received, Gossen withdrew all copies from circulation in 1858. He died of tuberculosis in 1859. Gossen was a discoverer of the front rank. But it was only many years after his death that the importance of his work for economic theory began to be recognised.

Gossen is not alone among those whose work met with no recognition during their lifetime. One is reminded of

¹This section is based on the article on Gossen in *Handwoerterbuch der Staatswissenschaften*.

Johann Gregor Mendel, an Austrian monk (1822-1884), who learnt through experiments in the garden of his monastery how characters may behave in heredity, and published his conclusions in 1866, but whose epoch-making paper attracted no attention till the beginning of the 20th century.

For economics Gossen's two laws were not less epoch-making. Without their help it is impossible to explain value.

2. MARGINAL UTILITY OF MONEY AND THE LAW OF SUBSTITUTION

It is important to emphasize that we are able to speak of the marginal utility of money because of the law of substitution. On account of the law of substitution the marginal utility of money tends to be the same in all its uses. Whenever it appears to us that we are spending too much money on luxuries or comforts and too little on necessities, we substitute necessities for comforts or

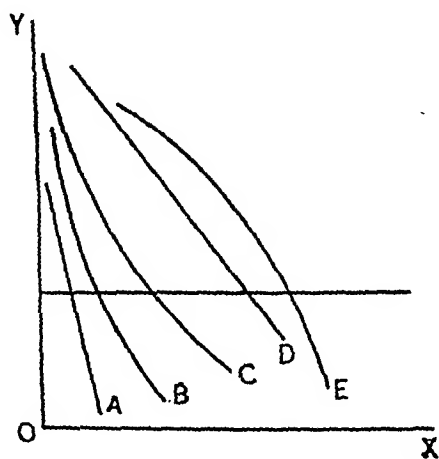


Fig. 21

luxuries, thereby making the marginal utility of money spent on luxuries, comforts and necessities equal, and maximising our total satisfaction. The marginal utility of money has thus a definite connotation. If there were no

law of substitution, the marginal utility of money spent on different things would be unequal, and it would mean different things in different cases. There would be then not one but a hundred different marginal utilities of money.

Figure 21 shows curves relating to five different commodities. The curves have different slopes but all slope to the right in accordance with the law of diminishing marginal utility. Given the prices of the commodities, the consumer will so spend his money on each of these five, or a hundred other commodities and services, as to get equal satisfactions from them at the margin.

Why do we do so? Because we are rational beings. No one can disprove the law by so spending his income that marginal utilities of the different things consumed by him are unequal. A student, for example, may start spending 40 rupees out of his monthly allowance of Rs. 50 on the cinema and contend that he maximised his total satisfaction thereby. He may be right for all we know, but we are not concerned with particular individuals. We deal with masses of human beings, and it is legitimate to assume that normal men and women, taken in the mass, behave rationally.

3. CONSUMER'S SURPLUS OF SATISFACTION

In Fig. 22 we measure the amount of a commodity along OX and its utility along OY. When Oa units of the commodity are consumed, total utility is shown by the area

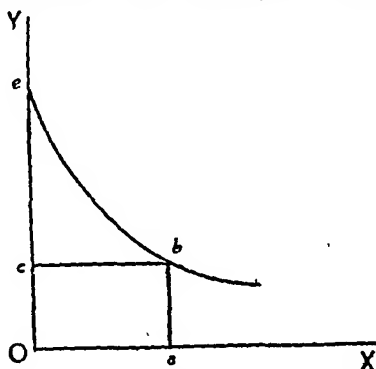


Fig. 22

$Oabe$; marginal utility is ab .

What is the area $Oabc$? It is obtained by multiplying marginal utility ab with the amount of the thing consumed. Now we have already learnt that price measures, not total, but marginal utility. $Oabc$ is the mass of satisfactions that the consumer pays for. The area ccb is the excess of satisfaction procured over and above the product of the marginal satisfaction and the amount of the thing purchased. It represents satisfaction that has not been paid for—or consumer's surplus of satisfaction.

The doctrine of consumer's surplus is associated with the name of Dr. Marshall, one of the great builders of the science of economics. Before Marshall, a French writer Dupuit said that "political economy should take as measure for the utility of an object the maximum sacrifice that a consumer would be willing to make to procure it."* Stated without qualification, as Dupuit stated it, the doctrine of consumer's surplus is not true. But it is less untrue if we make two assumptions: (1) a very small proportion of the consumer's income is spent on the commodity, and (2) that the marginal utility of money to him remains constant.

With an income of Rs. 100 per month, you buy 5 oranges for 5 annas. One anna measures the marginal utility of oranges to you, and since all oranges are alike, you will not pay more for any orange. The total sum spent is 5 annas, but rather than do without these oranges you would, let us assume, pay 8 annas for them. Then the difference between the price that you would be willing to pay for them rather than do without them, and the price that you actually pay for them, measures, in terms of money (3 annas in our illustration) the surplus of satisfaction which you derive from the consumption of oranges bought for 5 annas.

If oranges disappeared, you would lose this surplus of satisfaction. For by spending 5 annas on other things you would procure additional marginal utilities only, no surplus.

Five annas is a very small proportion of your income. The marginal utility of money to you is not perceptibly affected by an increase or reduction in your income by

*Quoted by Prof. Hicks in *Value and Capital*, p. 39.

five annas.

The measurement of consumer's surplus in money is difficult and sometimes misleading. But it is incontestably true that the prices we pay for many things are not the prices we would generally be prepared to pay for them rather than do without them. A few years ago a post-card cost one pice; now the price of the same post-card is 3 pice. The general purchasing power of money is a little greater than before, not less. It follows that a post-card was worth at least 3 pice several years ago, when we actually paid one pice for it.

The same is true of a match box, of a daily paper costing one anna, of cheap electricity. We derive a surplus of satisfaction from their consumption. The amount of this surplus is reduced when a tax raises their price (e.g., a match box), and it is increased when the price falls (e.g., reduction in the price of electrical energy in Lahore from 6 annas to 4 annas per unit).

Beyond this we may not travel. It would not be right to argue that a consumer by spending an income of Rs. 100 a month procures satisfaction worth Rs. 1,000.

4. ELASTICITY OF DEMAND

Demand curves slope down to the right as a rule, because the utility curve slopes down to the right as a rule. We assume that the marginal utility of money remains constant. The meaning of a demand curve sloping down to the right is that more would be bought at a lower and less at a higher price.

If the demand curve is a straight line, the ratio of dy to dx is the same at all points. But the demand curve may not be a straight line. Then $\frac{dy}{dx}$ is different at different points.

The demand curve in Fig. 23 is more elastic than that in Fig. 24. In both cases dx increases as dy decreases, but for the same increase of dx there is a heavier fall in dy in Fig. 24.

We measure the amount of a commodity in both cases along OX and price along OY. Let us suppose that D_1 is

the market demand for milk, and D_2 the market demand for

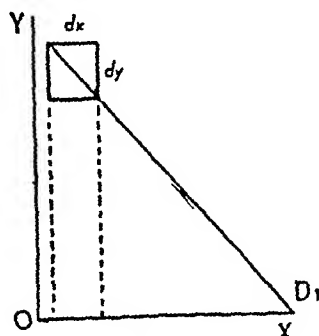


Fig. 23

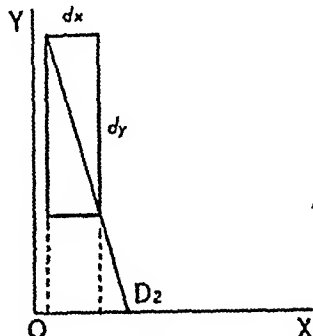


Fig. 24

salt. Then a greater fall in price is required in the case of salt than in the case of milk for an equal increase in the amount purchased. The demand for salt would be said to be less elastic than that for milk.

If the quantity demanded remains unaffected by changes in price, demand is said to be inelastic.

In technical language, elasticity of demand at any point on a demand curve is indicated by the slope of a tangent to the curve at that point.

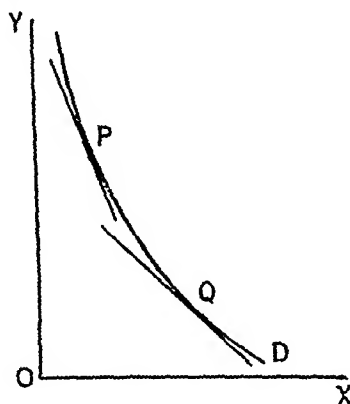


Fig. 25

The demand curve in Fig. 25 has different slopes at different points. Two tangents have been drawn to the curve at points P and Q. They have different slopes, or the demand curve has different elasticities at different points.

Suppose you would buy one apple for two annas, 2 apples if the price were 1 anna each and 4 apples at 2 pice each. The amount multiplied by price is constant, 2 annas. In such a case the elasticity of demand is said to be unity.

If a fall in price to 2 pice would induce you to buy 6 apples, spending 3 annas on them, the elasticity of demand is greater than unity. If you would buy only 3, spending $1\frac{1}{2}$ annas, or less than 2 annas, elasticity of demand is less than unity.

As demand becomes more and more satiated, the elasticity of demand tends to fall below unity. As long as the elasticity of demand is greater than unity, the point of satiation is far off.

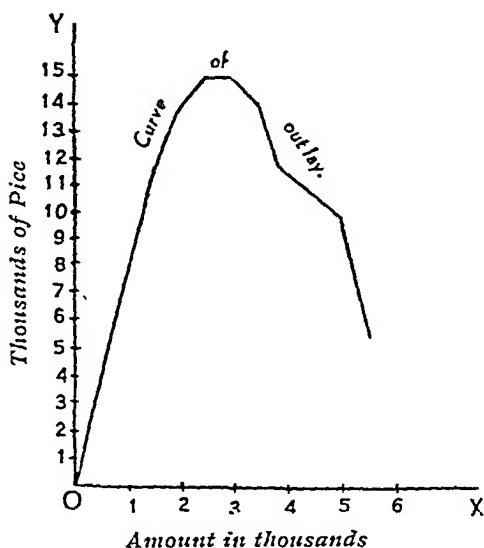


Fig. 26

In Fig. 26 we measure the amount of a commodity (apples) along OX, and the total sum spent on apples, or total outlay, along OY. The total outlay first increases, then remains constant, as shown by the horizontal portion of the curve, and finally falls. The elasticity of demand is unity for the horizontal portion of the curve, greater than unity so long as the curve is rising and less than unity when the curve is falling.

The numerical data are given below.

<i>Price per apple :</i>	<i>Market demand</i>	<i>Total Outlay :</i>
Price		Price
10	...	...
9	500	4,500
8	1,500	12,000
7	2,000	14,000
6	2,500	15,000
5	3,000	15,000
4	3,500	14,000
3	3,800	11,400
2	5,000	10,000
1	5,500	5,500

The total outlay remains constant when the quantity increases from 2,500 apples at 6 pice each to 3,000 apples at

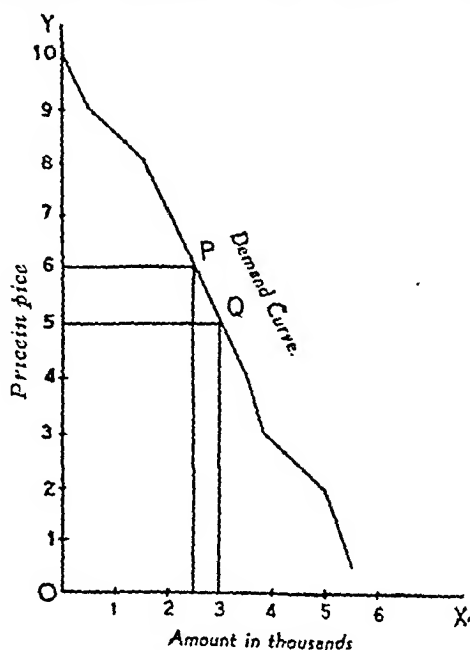


Fig. 27

5 pice each. Thereafter elasticity is less than unity—the curve illustrating total outlay falls.

The curve of outlay in Fig. 26 above is not a demand curve. A demand curve shows variations in the quantity demanded with changes in price. The curve of outlay shows how total outlay increases or decreases with the quantity bought. Price is not directly shown in Fig. 26. We have to find it by dividing the outlay by the quantity which it represents. When the outlay is 15,000 pice for 2,500 apples, the price, we infer, is 6 pice per apple.

We may show the price per apple, the quantity bought and the total outlay in the same diagram and thus obtain a demand curve. This is done in Fig. 27. Price is measured along the axis of Y and the quantity bought along the axis of X; the same scale is employed for price and quantity. (We assume that when the price per apple is ten pice, the quantity bought is so small as to be negligible, or equal to zero). The points on the demand curve show the quantities of apples that would be purchased at different prices.

The demand curve falls but it possesses different elasticities at different points.

At the points p and q the elasticity of demand for apples is unity, for the total outlay is constant, 15,000 pice. The rectangle Op is equal to the rectangle Oq .

The total outlay for any quantity of apples may be found by drawing perpendiculars from the corresponding point on the demand curve to OX and OY . The rectangle thereby obtained shows the total outlay.

An individual's demand may remain unaffected by changes in the price of a particular commodity. A non-smoker will not be induced to smoke by a fall in the price of cigars or cigarettes. And a heavy smoker, with a long purse, may consume the same number of cigarettes or cigars daily irrespective of a rise in their price. No one is induced to consume more salt with his food when the price of salt falls. But salt is also given to cattle and is used for industrial purposes. The total market demand for salt in India is elastic.

Generally speaking, the demand for necessities is less elastic than that for comforts and luxuries.

Demands of different individuals for different com-

modities possess different degrees of elasticity. This is because individual tastes and preferences vary.

5. SYSTEMS OF DEMAND

An individual's demands form a system. They are inter-related. A system of demands is determined by individual tastes, but more largely by the standard of living of the class to which one belongs. The standard of living itself is determined by income.

A community may be divided into different classes according to income. Unskilled workers with incomes ranging from Rs. 10 to Rs. 30 per month form the most numerous section of the community. They have a low standard of living, determined by their income. A worker earning 8 annas a day cannot live like a prince. Almost the whole of his income will be spent on necessities of life, food, clothing and shelter, but he may still spend a pice or two occasionally on *pan*, or a pice daily on *hookah* tobacco—which we may recognise as conventional necessities.

As income rises, the standard of living rises. The proportion of total income spent on food falls with the rise of income, and a higher proportion is spent on comforts and luxuries.

All of us belong to one social class of the community or another, and tend to adopt the standard of living of that class. But there are exceptions. A millionaire may choose to live like a pauper. He may wear dirty clothes, spend very little on food and other necessities, and dispense entirely with comforts and luxuries. All social classes contain abnormal individual types.

6. CHANGES IN DEMAND

A demand schedule shows the quantities of a commodity that would be bought at different prices, or the expansion and contraction of demand with changes in price. But demand may increase or decrease, which means that a different demand schedule has come into existence.

Fig. 28 shows three demand curves, similar in elasticity at

all points. We measure the quantity of a commodity along

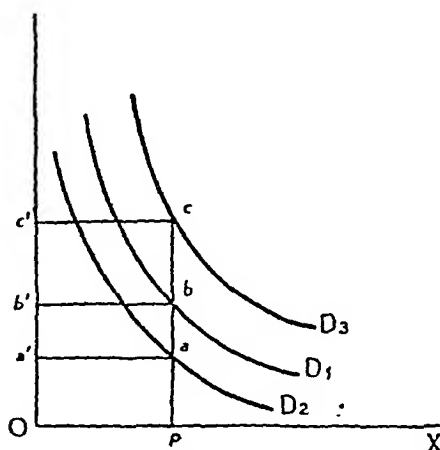


Fig. 28

OX and price along OY. Let us suppose that D_1 is the original demand curve; b being a point on D_1 , Op quantity of the commodity would be bought at bp ($=Ob'$) price. If

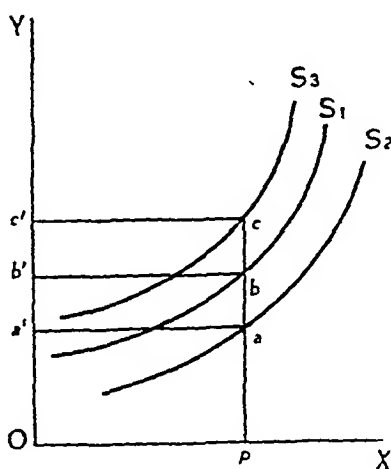


Fig. 29

the demand rose the same amount would be bought at a higher price cp and if the demand fell, at a lower price, ap . These three curves represent three demand schedules.

Similarly the three supply curves in Fig. 29 show three different supply schedules. As before, we measure the quantity of a commodity along OX and the price along OY. Each curve shows that a greater quantity of the commodity would be brought to the market at a higher price. Suppose S_1 is the original supply curve. It shows that Op quantity of the commodity would be offered at bp price. If the conditions of production changed, the supply curve may rise or fall. A rise to S_3 would mean that op would be offered at a higher price, cp , and a fall of the supply curve to S_2 would indicate that the same quantity would be offered at a lower price, ap .

We are at present not concerned with conditions of supply. What are the causes of changes in demand? An individual's system of demands is largely determined by his income. It follows that the system of demands would change with income.

Real and money income.—Income may mean real income in terms of goods and services, or income in terms of money. When money heavily depreciates, money income generally increases, but real income may fall.

Suppose all prices double, but your money income remains unchanged—Rs. 100. This sum would now represent half the amount of goods and services which you were able to enjoy before. We assume that there is no change in relative prices. If the price of wheat rises from Rs. 3 to Rs. 6 per maund and of *ghee* from Rs. 48 to Rs. 96 per maund, there is no relative change in the prices of the two commodities.

A hundred per cent rise in all prices would reduce the purchasing power of your income by 50 per cent., a quadrupling of prices would reduce the purchasing power of income to $\frac{1}{4}$ th of what it was before.

Paper money possesses no intrinsic value, and when it is over-issued, there is practically no limit to the fall in its purchasing power. The following figures are an illustration:—

Cost of living index numbers for Germany:
July 1914=100

	<i>Index No.</i>
Feb. 1920	... 847
" 1921	... 1,147
" 1922	... 2,449
Aug. "	... 7,765
Sept. "	... 13,319
Oct. "	... 22,066
Nov. "	... 44,610
Dec. "	... 68,506
Jan. 1923	... 112,027
Feb. "	... 264,300

We represent the cost of living in Germany in July 1914 by 100. This is our index figure. The table shows that in February 1920, the cost of living in Germany was about $8\frac{1}{2}$ times that in July 1914; in February 1922 it was about $24\frac{1}{2}$ times higher, in December 1922, 685 times higher, and in February 1923 no less than 2,643 times higher. The meaning is that if a certain quantity of butter, or milk, or bread cost 1 mark (=about 12 annas) in July 1914, it cost 2,643 marks in February 1923.

If all prices without exception rise 2,643 times, and also all incomes, there is no change either in relative prices or incomes, and no one is either better off or worse off than before. The only change is in the standard in terms of which prices and incomes are measured.

You are $5\frac{1}{2}$ feet high, according to the accepted measure of length, and your friend 6 feet. A foot is equal to 12 inches, but suppose we called 100 inches one foot. Why, then your height would increase to 550 inches and that of your friend to 600 inches. But the relative heights would remain unchanged 5.5 : 6.

When money depreciates all prices and all money incomes do not rise in the same proportion—some rise more and others less. Most often people with fixed money incomes suffer; their real incomes fall. Those whose money incomes rise in a greater proportion than prices are better off than before. A change in the real incomes of people will cause changes in their systems of demand.

(a) *Rise in Real Income.*—We have said above that the proportion of total income spent on food is relatively high when income is low (Engels' Law). An illustration is given below:—

Standard Family Budget of a working class family in Ahmadabad

Article					Quantity	Price
					Md. lbs.	Rs. a. p.
Rice	...	...	...	...	1 0	4 0 0
Bajri	...	...	...	...	1 0	3 2 0
Wheat	...	...	...	...	1 0	3 6 0
Tur Dal	...	...	...	...	0 8	0 14 0
Mung Dal	...	...	...	...	0 7½	1 0 0
Gul	...	...	...	...	0 3	0 7 6
Ghee	...	...	...	...	...	3 0 0
Milk	...	...	...	...	0 30	3 12 0
Meat	...	...	...	...	...	1 6 0
Vegetable	...	...	...	...	...	2 0 0
Gingily Oil	...	...	...	...	0 2	0 10 0
Salt and Condiments	...	...	...	...	...	1 0 0
Refreshment in the mill	...	...	...	...	...	2 0 0
Fuel	...	...	...	...	...	4 0 0
Kerosene	...	...	...	...	...	0 12 0
Soap	...	...	...	...	...	0 8 0
Tobacco	...	...	...	...	...	1 0 0
Shaving	...	...	...	...	...	0 4 0
Hair Oil	...	...	...	...	...	0 4 0
Rent	...	...	...	...	...	4 0 0
Interest	...	...	...	...	...	3 0 0
Clothing and Utensils	...	...	...	...	...	4 1 0
Social and Ceremonial expenses	...	...	...	...	...	4 8 0
Medicine, Education, etc.	...	...	...	...	...	0 15 0
Total					...	49 13 6

Out of a total expenditure of Rs. 49-13-6, food items account for Rs. 24-9-0, or about half.

An inquiry into family budgets of the working classes in Bombay City and Island was made in 1921-22. The number of working class family budgets examined was 2,473. The expenditure on food as percentage of total income was

found to be as follows :—

Expenditure on food as percentage of total income.

Income classes			Average number of persons, including children, in family.	Number of children living in family.	Percentage expenditure by average family in each income-class.	Percentage expenditure by standard family of 3·40 men.
Below Rs. 30	...	...	3·7	1·7	62·2	70·5
Rs. 30 and below Rs. 40	...	...	3·8	1·8	58·0	64·0
Rs. 40 and below Rs. 50	...	...	3·9	1·8	52·6	56·6
Rs. 50 and below Rs. 60	...	...	4·3	2·1	52·1	51·2
Rs. 60 and below Rs. 70	...	...	4·3	2·0	49·7	48·4
Rs. 70 and below Rs. 80	...	...	4·8	2·3	51·4	45·0
Rs. 80 and below Rs. 90	...	...	5·1	2·5	49·6	41·0
Rs. 90 and over	...	...	5·0	2·3	49·8	41·8
All incomes	...	...	4·2	2·0	52·0	52·0

The percentage expenditure by standard family falls from 70·5 for incomes below Rs. 30 per month to 41·8 for incomes of Rs. 90 and over.

Bread is called the staff of life. That is so in India, but not so much in the prosperous countries of the West. A foreign writer speaks of a 'tendency towards a structural aversion to the use of bread,'² which has manifested itself in European countries and the United States. Between 1916 and 1928-29 the consumption of wheat flour in the United States per head of the population fell by 15 per cent. One would think that the people of the United States were forced to curtail their consumption of bread on account of growing poverty! No, growing prosperity had that effect on their demand for wheat. They consume less wheat, but more vegetables, milk and fruits, in addition to their accustomed quantity of meat.

A rise in the real income of the masses in India would cause an enormous increase in the demand for the products of our manufacturing industries. And there would be a greater demand not only for many goods but for finer qualities of goods.

² Dr. Guenter Keiser in *Wirtschaftsdienst* for May 11 and May 18, 1934.

We have said above that the demand for comforts and luxuries is generally more elastic than the demand for necessities. Suppose you earn Rs. 100 a month. If your income increased by 25 per cent., the percentage increase in your demand for furniture, or dress, consequent upon the increase in your income, would be higher than the percentage increase in your demand for ordinary articles of food. In other words, in your case (as generally) the income-elasticity of demand for comforts and luxuries is greater than that for food. If for a 25% increase in income, the percentage increase in the demand for a good is 5, $\frac{5}{25}$, or $\frac{1}{5}$ measures the income-elasticity of demand for that good.

(b) *Changes in Population.*—Growing numbers require more food, clothing and shelter. Demand for all things would increase with the growth of numbers.

There are marked differences between the composition of our population and that of a country like the United Kingdom. Our population contains a higher proportion of children and a smaller proportion of old men, and there is an excess of males over females in the total population. If the composition of our population changed, demand would change too.

The population of the United Kingdom is increasing slowly, and the rate of growth may become slower in the future. Our tea industry, 'taking a long view,' is thinking of developing its American markets. It is feared that the British demand for tea will tend to decline: "There seems little reason for doubt that in fifty years' time the population of Great Britain will be considerably less than it is now, and it is therefore essential to find some market to replace that which will be lost as a result of the decline in the population of Great Britain."

A heavy decline in population would cause a fall in the demand for most goods.

(c) *Distribution of Income.*—If India's national income were equally distributed, all would be equally poor. Reliable data do not exist for estimating India's national income but in a semi-official publication by Principal Shirras it is shown as £5 per head in 1931 (United Kingdom 1921, £76, Australia 1914, £98, Canada 1927, £119, and the United States 1932,

£89. Income per head in Canada and Australia is higher than in the United Kingdom and the United States as they are new, rapidly developing countries and are thinly inhabited.) Suppose every family in India had the same income, or £25 a year for a family of five. £25 annually is equal to about Rs. 28 a month. If no family was able to spend more than Rs. 28 a month, the demand for all luxuries and most comforts would disappear. There would be no motor-cars, motor cycles, carpets, jewellery, sofa-sets, gold- or silver-ware, owned by any one. But those who are half fed now, would be better fed ; those who go about practically naked, would be better clothed.

Concentration of wealth in fewer hands increases the demand for luxuries.

Incidentally it may be noted that an absolutely equal distribution of wealth, by reducing every one to the same level, would cause the springs of saving and investment to dry up. One can save little out of an income of Rs. 30 a month, say 5 per cent of the income. But living well, you may comfortably save 50 per cent out of an income of Rs. 3,000 a month, and a still higher proportion out of a greater income.

(d) *Changes in Taste.*—Changes in taste cause changes in demand. The upper classes in India are being rapidly Westernised. Tea, coffee, cocoa, toast, ice-cream, chocolates, Western articles of furniture and decoration were not so commonly used 40 years ago as at present. Tea has penetrated every village in the Frontier Province, and it is becoming known in the Punjab villages. Coffee is still new to the Punjab. The growing demand for tea and coffee affects the demand for milk and that healthy drink of the Punjab, *lassi*. European ice-cream is reducing the demand for the Indian variety. Dress is changing—the Europeanised Indian prefers the hat to the turban or the old-fashioned cap. Utensils are changing—china-ware successfully competes with brassware. Electric light has replaced the old *chiragh* and the electric fan, the old *pankha* ; the harmonium is the curse of almost every middle-class home. Cheap machine-made goods have robbed many classes of artistic hand-workers of their employment and livelihood.

(e) *Rival goods*.—European ice-cream is a rival of Indian ice-cream. Chemical dyes have reduced the demand for vegetable dyes. In the 17th century there was a strong demand for Indian indigo in European markets and indigo was an important article of export. At present there are no exports of indigo, and indigo is no longer an important crop. Artificial silk has reduced the demand for real silk and it even competes with cotton. Rayon staple is a more formidable rival of cotton; increase in the production of rayon staple has enabled Germany to reduce her cotton imports. Synthetic rubber, called *buma*, may affect the demand for natural rubber; at present the cost of production of synthetic rubber is high. *Sisal* hemp competes with jute fibre.

(f) *Complimentary goods*.—Certain goods are complimentary, e.g., frame for a pair of spectacles and lenses. An increase in the demand for pairs of spectacles would increase the demand for lenses as well as frames.

There is a joint demand for many goods, e.g., tennis balls and tennis rackets. A tennis racket is of little use for other purposes, and tennis balls are wanted primarily for playing tennis. The growing popularity of tennis in India has increased the demand for all tennis requisites.

A good jointly demanded with another good may also be separately demanded for its own sake, or jointly for a different purpose. We drink milk, use it in the manufacture of sweets, and also take it with tea, or coffee or cocoa.

(g) *Trade fluctuations*.—As we shall see later, trade revolves in a cycle, periods of depression following periods of boom, or over-active trade. In a severe depression, such as that of 1929 which took the whole world in its grip, production and consumption decline, accompanied by a heavy contraction of income and trade. A heavy fall in the income of large masses of people would inevitably cause a reduction in their demand for goods in general, though all trades and industries do not equally suffer in a depression.

Agriculture also revolves in a cycle. India is periodically visited by famines, but thanks to railways and irrigation, the word famine has no longer that terrible meaning which it had till the end of the last century. A severe and

wide-spread famine reduces the income of the agricultural section of the population and thereby its purchasing power. Before the development of railways and irrigation famines had the effect of completely paralysing economic activity for a time, and recovery was often slow and painful.

BOOK II

Production of Wealth

CHAPTER V

FACTORS OF PRODUCTION

We have seen that wealth is produced in order to be consumed. We have also seen that the consumption of wealth does not cause the destruction of matter, but only of utilities. Similarly production does not signify the creation of matter; but of utilities. A carpenter makes a table by giving matter called wood a form called table, which satisfies a certain demand. No new matter has been created, but utilities in the form of a table.

Even the farmer creates only utilities. He ploughs the land, sows the seed, waters the land and takes care of the crop which land or nature yields.

Domestic servants, cinema actors and many other classes of workers provide utilities directly in the form of services to consumers.

A distinction is sometimes made between elemental, form, and time utility.

Minerals embedded in a mine possess *elemental* utility. When a mineral, e.g., stone or coal, is dug out of a mine and broken into pieces of the size required, it acquires *form* utility. Wood, when split to be used as firewood, is given a *form* utility. The greatest utility of firewood is in the hearth—this is its *place* utility, though firewood may also be used for hitting people on the head. The greatest *time* utility of an electric fan is in the summer months. Numerous other examples would occur to the reader.

1. PRODUCTIVE LABOUR

All labour, in whatever form, which creates utilities, is productive labour. Some of the earlier economists held the view that labour which resulted in the production of tangible commodities alone was productive. If this view

were accepted, all those who furnish their services directly to consumers, such as actors, teachers, soldiers, sailors, policemen and magistrates, would have to be classed among unproductive workers. It may be argued that some teachers' labour, by improving the minds of pupils who will later engage in the production of tangible commodities, is productive labour. It may, similarly, be argued that soldiers and sailors who defend a country against foreign aggression, and policemen and magistrates who maintain law and order within a country, indirectly assist in the production of tangible goods by creating conditions of order and security in which economic activity can be carried on. This argument cannot be ignored, but we have a better reason still to regard all those whose services are remunerated, or possess an exchange value, as productive workers. Production consists in the creation of utilities, therefore whoever creates a utility, whether in the shape of tangible goods or intangible services, has worked productively. We attach no moral significance to utility—utility is want-satisfying power irrespective of the nature of the want. It follows that in the technical sense even the purveyor of noxious goods and services which are highly objectionable from the moral point of view, is a productive worker, provided that there is a demand for the goods or services in question. The test of utility in the economic sense is exchange value. Wherever exchange value is present in any shape or form, utility is present, and this utility represents productive labour.

2. FORMS OF PRODUCTIVE ACTIVITY

The farmer raises crops on the land. The rubber-planter obtains rubber by tapping trees. The fisherman catches fish in the river or the sea. The miner digs gold, coal and other minerals out of the bowels of the earth.

From raw materials the manufacturers, hand-workers or factory owners manufacture goods.

Goods, when produced, are transported to the place or places where there is a demand for them.

Merchants and traders arrange for the distribution of goods. This is a service quite distinct from the transportation

of goods.

Finally, many classes of workers render their services directly to consumers. e.g., a singer. Possibly good music may inspire a manufacturer to produce more and better tangible commodities, but we need consider only the direct utility of music as a form of entertainment.

A distinction is usually made between industry and commerce. Industry is concerned with the making of things, commerce with their distribution. Agriculture and manufacture are industries. Merchants and traders, both retailers and wholesalers, perform a commercial function.

Mining is an extractive industry. The more gold is taken out of a mine, the less would be left in the mine. Gold does not grow in the mine. A mine is exhausted when it has been completely worked out. Fishing need not exhaust the supply of fish, provided there is no or little fishing in the breeding season.

3. IS AGRICULTURE AN EXTRACTIVE INDUSTRY?

Ques.-

Agriculture is sometimes regarded as an extractive industry. Does the continued tilling of the soil diminish its yield?

Unfortunately reliable data regarding the yield of land in India two or three hundred years ago, which may be compared with the yield of the same tracts at present, do not exist. Statistics of the outturn of crops are given in the *Ain-i-Akbari*, the monumental work of Abul Fazl, but it is not possible to say how far they are reliable. In these statistics land is divided into *Polaj* land, *Paraute* land, *Chachar* land and *Banjar* land. The *Ain* states: "Of the first two kinds of land, there are three classes,—good, middling and bad. They add together the produce of each sort and a third of this represents the medium produce, one-third part of which is exacted as the royal dues."

The following are the outturns of rice and wheat of *Polaj* land in the time of Akbar, converted into standard

maunds per acre :—

Produce of a bigha of Polaj land :—	Wheat		Rice	
	Mds.	srs.	Mds.	srs.
Best sort ...	18	0	17	0
Middling sort ...	12	0	12	20
Worst sort ...	8	35	9	15
Total ...	38	35	38	35
1/3 of total, or average produce of a bigha of Polaj ...	12	38½	12	38½

The tracts referred to in the *Ain* are mainly those of the United Provinces. The outturns for these Provinces given in the Report of the Prices Enquiry Committee of 1910 are :

	Mds.	srs.
Wheat	..	12 31
Rice	...	10 13

No definite conclusions, however, can be reached regarding the fertility of land at present as compared with that in Akbar's time as we do not know precisely to what areas the yields mentioned in the *Ain* relate, or how far they may be treated as reliable for the purposes of an exact and scientific comparison.

It may be taken as true that if what is taken off the land in crops is in some way put back into the land, the soil does not suffer exhaustion. A country which exports both crops and manure (*e.g.*, bones) year after year would, in the long-run, tend to decline in fertility.

Agriculture is not necessarily an extractive industry. When virgin soil is first brought under cultivation, yields are highest. They tend to decline in successive years, but finally reach stability at a lower level. Once a stabilised condition is reached, natural gains balance plant food-

materials removed by crops and other losses, and no appreciable changes in the yield occur, except due to changing seasons. We assume that the methods of cultivation do not change. The Agricultural Advisor to the Government of India told the Indian Agricultural Commission of 1928 that "most of the area under cultivation has been under cultivation for hundreds of years, and had reached its state of maximum impoverishment many years ago."

The soil owes its fertility to nature, and under given conditions of cultivation, this fertility remains unimpaired for long periods of time.

4. JOINT AND ALTERNATIVE PRODUCTS

Certain goods are produced jointly, as wool and mutton, or wheat and straw. But it is possible to vary the proportion of wool to mutton, of straw to wheat. By cross-breeding it is possible to produce sheep which will bear more or less wool in proportion to meat. It is also possible to increase the yield of corn without causing an over-luxuriant growth of stem and leaf, but not to an unlimited extent.

The same piece of land may be used for producing wheat, a food, crop or cotton or oil-seeds, which are non-food crops. Similarly a machine may produce fine or coarse woollen stockings, but not both at the same time. The different crops which may be raised on a piece of land, or products which may be obtained from a machine, one at a time, may be called alternative products.

Land or capital which can be used only for one purpose is called specific. A typewriter can be used only as a typewriter, and not, for example, as a sewing machine. It is a specific form of capital. Similarly there may be specific forest land, land which is capable only of growing forests, and which cannot be diverted to another use.

5. MEANING OF FACTORS OF PRODUCTION

The traditional factors of production are Land, Labour, Capital and Enterprise. In this book we shall adhere to

this traditional classification of factors or agents of production.

Recent writers on economics object to this classification on the ground that all units of land and labour are not of the same quality. An acre of land may yield twenty maunds of wheat and another acre not more than 6 or 7 maunds. The quality and efficiency of labourers vary. There is a difference of quality between skilled and unskilled labour, and skilled workers in the same occupation differ in regard to efficiency. When (for example) in the production of wheat, an additional acre, or an additional labourer is employed, and there is no other change, we cannot say what additional product will be obtained, for we know nothing about the quality or efficiency of the additional acre or labourer.

We may get over this difficulty by sub-dividing land, labour and capital into groups of similar acres, workers or capital goods. Having done so we treat each group as a separate factor of production, and suppose that each unit of any given factor will be 'a practically perfect substitute' for any other unit of the same factor.

In real life, however, no two men, no two acres of land are exactly alike, or perfect substitutes for each other. When we call Labour one factor of production we do not become deliberately blind to the differences in the skill and quality of different workers. When we call Land one factor of production, we are perfectly aware that pieces of land differ both in respect of fertility and situation. But nothing prevents us from assuming that all acres of land are exactly similar when we are considering the difference that would be made to the total yield of land by bringing one more acre under cultivation, other factors (labour and capital) remaining unchanged. The resulting addition to the total product measures the marginal productivity of land. In explaining marginal utility we are compelled to assume that all oranges are exactly (not 'practically') similar, or of precisely the same quality, while as a matter of fact no two oranges are exactly the same. The conception of marginal utility, as that of marginal productivity of a factor, is an abstraction. Unless it is assumed that all units of the commodity

consumed are exactly similar, marginal utility has no meaning. Unless it is assumed that all acres of land are precisely (not 'practically') the same both from the point of view of fertility and situation, the marginal product of land has no meaning either. Even if we ignored differences in the natural fertility of two acres of land, no two acres can have the same situation. We have then as many hundred millions of land-factors as there are acres of land in the country, as many hundred millions of labour-factors as there are labourers in the country. And we have solved no theoretical difficulties in creating hundreds of millions factors, for these similar factors are not and cannot be perfect substitutes for each other.

When Ram Lal, a typist, becomes a shop assistant or a salesman, we shall not say that he has become a different factor of production, but that he has changed his occupation. Ram Lal would be still classed under labour. When we are dealing with workers in the same occupation performing the same task, we shall make allowance for differences in efficiency.

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6. PECULIARITIES OF LAND AS A FACTOR OF PRODUCTION

Land in economics does not merely mean *terra firma* or land in the ordinary sense, but materials and forces supplied free by Nature. Land includes mines, fisheries, gases stored in the earth and climate and sun-light. We shall make no attempt to sub-divide these natural forces and materials into groups of exactly similar units, which may be perfect or 'practically' perfect substitutes for each other.

Recent writers on economics have a tendency to emphasize that much land is 'man-made'. Capital is invested in land or on land, but land derives its value principally not from the fact that capital has been invested in it or on it, but from its natural powers of productivity. Land may be reclaimed from swamps, forests and the sea. But an infinitesimally small proportion of land is man-made in this sense as compared with the total area of land in use.

There is an important difference between land and

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labour. The supply of land is limited. Land is a fixed stock. The supply of labour is flexible. The total area of India is the same to-day as it was 3,000 years ago or 300 years ago. But the population of India was about 10 crores at the death of Akbar and probably one or two crores 3,000 years ago ; it is about 40 crores to-day. At any given time, it may be admitted, the supply of labour is fixed. It may also be admitted that a rise in wages in Western Europe does not cause a rise in the birth rate. But a fall in wages below the subsistence level would destroy the health and strength of the people, weaken their disease-resisting power, and tend to reduce numbers. Measures may be adopted to stimulate the birth-rate. While at any given time the supply of labour is fixed, like that of land, it is not fixed for all time.

But the supply of land cannot be increased at all, whether in the short or in the long period. The yield of land may be increased by the use of fertilizers, but capital in this form is not a perfect substitute for land. As we shall see later, the yield of land cannot be increased indefinitely by investing more and more capital in it. If that were possible, the food required by the whole of the Punjab or the whole of India, might be raised on a few, or a few hundred acres of land.

Let us take a closed community, that is an isolated country, which neither exports nor imports goods. We may treat India as a closed community. As population increases, the demand for food will increase and more and more land will be brought under cultivation. When all the available land has been brought under the plough and population still continues to increase, the price of food will rise and it will become profitable to till even the worst land. Under the conditions assumed even the worst land will pay a rent (called scarcity rent), and the rent of superior lands will be higher. Growing demand for food, with constantly rising food prices, will cause the rent of land and the price of land to rise higher and higher, but the supply of land will not be affected thereby.

The scarcity of building land in a thickly populated town may be overcome by building higher and higher, but there is a limit to the height even of sky-scrapers. High price of

land in the centre of a town does not cause new land to appear.

7. PECULIARITIES OF LABOUR

The supply of labour depends on the growth of population, which we shall study separately.

Wages are paid for the services rendered by the labourer, and he must render these services in person. Therefore the conditions of employment are of vital concern to the labourer. It does not matter to a brick whether it is placed in a gutter, or in a king's palace, but it matters to a labourer whether he has to work several thousand feet underground in a mine, or above the ground, in healthy or unhealthy surroundings.

Secondly, labour is a perishable commodity. A college teacher who remained unemployed for several years would find it difficult to secure employment in the same capacity ; it would be presumed that he was not in touch with his subject. An unskilled worker, finding that the rate of payment for unskilled work is unduly low, cannot refuse to work for months in the expectation of a rise of wages. Before wages rise he may die of starvation.

Thirdly, the bargaining power of unorganised workers is very little as compared with that of the employer, for workers have little or no reserves. A worker is forced to work or starve. An employer of 5,000 workmen is a combination in himself so far as his employees are concerned. Trade unions of workmen increase their bargaining power.

Land is immobile, though the products of land are easily transported from one part of the world to another. Labour possesses mobility, but long ago Adam Smith wrote that of all kinds of luggage man was the most difficult to move. Your clothes trunk has no feelings, and no attachment to you or any other person ; you may pack it, insure it and send it to Timbuctoo or Land's End. But a worker has a family and friends. He prefers to live and work among those who speak the same language as he does, whom he knows, understands and trusts. There are also international restrictions on immigration. Even Ceylon does not want

Indian workers.

Geographical, Horizontal and Vertical Mobility.—Mobility of labour between places is called *geographical* mobility of labour. Migration of labour within a country is generally encouraged. Among the provinces which lose by migration the United Provinces, Bihar and Orissa are the most important. The emigrants from Bihar and Orissa chiefly go to Bengal and Assam (tea-plantations). The emigrants from the United Provinces seek their fortunes in Bengal, Assam and Burma in the east; Punjab and Delhi in the west; and Bombay, Central India Agency and C. P. and Berar in the south.

Movement of labour between different occupations in the same grade (e.g., unskilled) is called *horizontal* mobility, and that from a lower to higher grade (e.g., from an unskilled occupation to an occupation in the higher grade of skilled workers) is called *vertical* mobility. Vertical mobility is more difficult than horizontal mobility. An unskilled agricultural worker may migrate to a town and earn his living as a coolie, but it is not so easy for a tailor to become an advocate or for an office clerk to become a judge of a High Court.

8. ENTERPRISE

Enterprise creates value and is therefore a factor of production. But it is only a form of labour. Labour and land are the two original factors of production. Man creates wealth by the exploitation of natural resources. All capital is wealth.

An easy example may be given to show how enterprise creates utilities or value.

Twenty tailors independently may earn Re. 1-8 daily. The same tailors working under a tailor-master, who subdivides and organises their work, may earn the same amount daily or more; in addition the tailor-master would earn something for himself.

Sometimes the headmaster of a school, or the principal of a college, does no teaching work, but he is the most hard-worked man, and is paid the highest salary. His work consists in organising and managing the institution.

The enterpriser is also called the undertaker. He undertakes the risks of the business. In French the enterpriser is *entrepreneur*, which term is also commonly used in English.

There are various forms of enterprise. Every hand-worker is an independent producer. A shoe-maker, who works on his own account, undertakes the risks of business, and is therefore an undertaker. He will possess some capital in the shape of tools and implements of his profession and is therefore a capitalist, on a very small scale. He may employ assistants, and in so far as he does so, he is an employer. He works himself and is therefore a worker too. A hand-worker is an undertaker, capitalist, employer and labourer all rolled into one. The same is true of the peasant proprietor. Most of our producers are independent men working on their own account.

9. DISAPPEARANCE OF CAPITALIST-EMPLOYER

With the growth of large-scale production the importance of independent producers declines. Factory production replaces hand-work. The first stage in the development of large-scale production is the rise of capitalist-employers who own factories and run them. If you own a factory, in which much of the capital invested is your own, you are a capitalist-employer. Out of your gross receipts you will meet the expenses of production, including interest on such capital as you have borrowed and the salaries and wages of the staff; what is left is gross profit.

You may not be the sole owner of a factory. You may have entered into a partnership with others.

The individual proprietor takes all the profit of a business and bears all the losses. His liability for debts incurred by his firm is unlimited, or he is liable to the whole extent of his fortune for the liabilities of his firm.

The liability of partners is also unlimited, but under limited partnership, there may be one or more partners whose liability is limited to the extent of their investment. The general partners are responsible for all the debts and

obligations of the firm and their liability is unlimited.¹

Instead of a partnership you may found a private limited company. The number of members of a private limited company may be fifty but not more. A private limited company need not submit an annual balance-sheet to the Registrar of Joint-Stock Companies. It cannot ask the general public to buy its shares or debentures and it has to restrict the right to transfer its shares. The liability of members of a private limited company is limited to the extent of their shares only.

The Joint-Stock Company.—The most important form of business enterprise is the public joint-stock company. It raises its capital by inviting the general public to subscribe for debentures or various kinds of shares mentioned before. The liability of each shareholder is limited to the extent of his share or shares.

The principle of limited liability was introduced in Eng-

¹ Section 4 of the Indian Partnership Act, 1932, thus defines the nature of partnership: "Partnership is the relation between persons who have agreed to share the profits of a business carried on by all, or any of them acting for all. Persons who have entered into partnership are called individually 'partners' and collectively 'a firm' and the name under which their business is carried on is called the 'firm name'."

Partnership under this Act can only be formed with a limited number of persons. Section 4 of the Indian Companies Act lays down that if the number of partners in a banking business exceeds 10 and in any other business 20, the corporation must be a registered body and in that case that body will be governed by the Companies Act. It follows that the number of partners must not exceed 10 in a banking business, and 20 in any other business; if it does, partnership becomes illegal.

Under the Indian Partnership Act, 1932, it is not necessary that each partner should bring in either capital or labour or skill. There may be a partner who contributes nothing, e.g., the widow of a former partner who has been given a share. Ordinarily each partner would contribute either capital, labour or skill.

By section 11 of the Indian Partnership Act 'the mutual rights and duties of the partners of a firm may be determined by contract between the partners'. Partners are free to arrange their own affairs. Generally an agreement is drawn up governing their mutual rights and liabilities.

An agreement to share losses is not a necessary condition of partnership, and partners may agree that one or more of them shall bear all the losses. But where there is no such contract, the ordinary rule of law is that partners share profits as well as losses equally.

land in 1855 and it immediately became a powerful stimulus to enterprise. The first Companies Act was passed in India in 1866. The principle of limited liability has played a most important part in the development of large-scale industry.²

² Section 4 of Indian Companies Act, 1913, as amended by Act XXII 1936, is reproduced below :—

"4. (1) No company, association or partnership consisting of more than ten persons shall be formed for the purpose of carrying on the business of banking unless it is registered as a company under this Act or is formed in pursuance of an Act of Parliament or some other Act of the Governor-General in Council, or of Royal Charter or Letters Patent.

(2) No company, association or partnership consisting of more than twenty persons shall be formed for the purpose of carrying on any other business that has for its object the acquisition of gain by the company, association or partnership, or by the individual members thereof, unless it is registered as a company under this Act, or is formed in pursuance of an Act of Parliament or some other Act of the Governor-General in Council, or of Royal Charter or Letters Patent.

(3) This section shall not apply to a joint family carrying on joint family trade or business, and where two or more such joint families form a partnership, in computing the number of persons for the purposes of this section, minor members of such families shall be excluded.

(4) Every member of a company, association or partnership carrying on business in contravention of this section shall be personally liable for all liabilities incurred in such business.

(5) Any person who is a member of a company, association or partnership formed in contravention of this section shall be punishable with fine not exceeding one thousand rupees."

The minimum number of persons required to form a private company is two, and a public company seven (Section 5 of the Indian Companies Act).

Section 101 of the Companies Act prevents the formation of mushroom companies. Before proceeding to the allotment of shares the Directors are now required to provide for certain things :

- (a) the purchase price of any property to be purchased out of the proceeds of the issue of shares,
- (b) the preliminary expenses payable by the company,
- (c) commission for procuring shares,
- (d) the repayment of any moneys borrowed by the Company in respect of the matters stated above, and lastly,
- (e) working capital.

The minimum subscription, the amount of which is fixed by Directors, now must be such as to provide not only for the acquisition of the necessities for the business to be carried on by the company, but also the working capital. No allotment can be made of any share capital of a

Dispersion of Ownership.—When capital amounting to several lakhs, or crores, is required for producing a commodity, it can be more easily obtained in small sums from a large number of people than in the form of big contributions from a small number of people. One may well hesitate to invest a lakh of rupees in a single concern, but readily invest this sum in twenty or thirty different concerns. A single firm may fail, but not twenty or thirty at the same time.

The principle of limited liability has brought about a wide dispersion of ownership. In highly developed industrial countries the number of shareholders is large and constantly tends to increase. This is because there is no limit to the smallness of the share in an enterprise.

In the United States, by 1929, no less than 92 per cent of labour employed in the manufacturing industries was employed by limited liability joint-stock enterprise. This shows the importance of this form of business organisation under highly developed capitalism.

The number of shareholders of the bigger companies both in the United Kingdom and the United States runs into thousands and hundreds of thousands. In 1935 the number of shareholders of the British Imperial Chemical Industries was 76,000, and of the London and North Eastern Railway, 173,000. In 1931 the American Telegraph and Telephone Company had as many as 642,000 shareholders. The following statement shows the increase in the number of shareholders of certain American Companies between 1902 and 1931³ :—

	1902	1920	1931
American Telephone and Telegraph Company ...	12,000	139,000	642,000
Pennsylvania Railroad ...	28,000	133,000	241,000
United States Steel Cor- poration ...	25,000	95,000	174,000

company offered to the public for subscription unless the amount stated in the prospectus as the minimum amount (which, in the opinion of the directors, must be raised to provide for the objects mentioned above), has been subscribed, and the sum of at least 5 per cent. thereof has been received in cash by the company.

³ Quoted by E. F. M. Durbin in *Politics of Democratic Socialism* (Routledge), P. 122.

The device of limited liability and the small value of share enables even the proletariat in highly industrialised countries to acquire property.

10. DIVORCE OF OWNERSHIP AND CONTROL

Further, with the development of capitalism, there occurs not only a wide dispersion of ownership, but the divorce of ownership and control. Those who own a business do not control it!

The capitalist-employer is vanishing in Western countries. He is still of considerable importance in India. The predominant method of financing Indian industries at present is the managing agency system.

Bombay owes much of its industrial development to it. In Bengal the system prevails in jute, cotton, coal and tea industries. Ahmedabad cotton mills are run by managing agents. In Bihar and Orissa the managing agents provide capital for coal-mining, iron and steel, electrical enterprises, lime factories, mica mines and sugar factories.

The managing agents provide their own capital, raise capital from their friends and others, attract private deposits and take loans and cash credits from banks. They are practically masters of the concerns they manage. There is no divorce of ownership from control under the managing agency system. Those who provide the greater part of capital also control the use of capital.

But where the number of shareholders is large, control passes out of the hands of shareholders, who are the ultimate owners of a business. A shareholder is known as a 'sleeping partner.'

Property-holder no longer an Administrator.—Suppose you have invested a lakh of rupees in fifty different concerns. It is impossible for you to take a keen interest in the management of all these concerns. Your interest will be limited to the dividends on the shares.

"The property-holder," says Durbin, "is no longer an administrator. He contributes nothing to the government of industry. He has become wholly parasitic, receiving a share in the profits of the enterprise and a share in the

income of society without discharging any continuous administrative function whatever."⁴

The policy of a public company is controlled by directors, who must also be shareholders. The main source of income of directors, however, is the fees of direction rather than the interest on the shares.

While the policy of a public company is determined by directors, the day-to-day management is in the hands of managers, who are salaried employees. The shareholder is a parasite, a pure *rentier*, who gets an income without work. The manager is a worker, with little or no *rentier* interest in the concern he manages.

The management of modern industry is a highly technical business, which explains the growing importance of the manager in the administration and control of industry.

If the board of directors of a large railway company disappeared, the trains would continue to run, and all services continue to be provided for months as efficiently as before, provided the management remained. If the management disappeared even for a single day, all work would be at a standstill, and utter confusion would prevail.

With the growth of capitalism, the structure of capitalist organisation of industry has profoundly changed.

⁴ *Politics of Democratic Socialism* by E. F. M. Durbin; (Routledge), P. 127.

CHAPTER VI

CAPITAL

All capital is wealth. Whether all wealth is capital depends upon how we define capital.

Most often capital is defined as wealth devoted to the production of further wealth.

Fish may be caught with bare hands. Let us suppose that an expert diver lives on the banks of a river, and that he subsists entirely on fish that he catches with his bare hands. It may occur to him that if he had a net he would be able to catch more fish and with less exertion. He must lay by a store of fish, and to do that he must not eat all the fish that he catches daily. The stock of fish on which he lives while making a net or a boat is wealth used in the production of further wealth. Wealth has been transformed into capital.

In defining capital thus we identify capital with producers' goods. Producers' goods are instrumental goods which help in the production of wealth. They are also called indirect goods. Direct goods are consumers' goods which yield satisfaction directly. The pots and pans of a confectioner are indirect goods; the sweets that he makes are direct consumers' goods.

1. SOCIAL AND INDIVIDUAL POINTS OF VIEW

But to the confectioner his sweets are indirect goods—he does not make them for his own consumption. Capital may thus be regarded from the individual or the social point of view.

From the social point of view the whole of a community's apparatus of production, consisting of factories, tools, implements and machines, railways and other means

of transportation, dockyards, shipyards, canals, and stores of raw material are capital. They are instrumental goods which are used in the production of wealth.

But this restricted definition of capital raises difficulties. It is not always easy to distinguish between direct and indirect goods. A railway train may carry business men as well as tourists. The tourists use the railway for pleasure, or as a direct good, and business men as an indirect good. A doctor may keep a motor-car primarily for visiting patients, but he will use the same car for a pleasure drive in the evening. When used for business purposes the car is capital ; when used for pleasure, the car becomes a direct good !

2. ALL WEALTH IS CAPITAL

To get over this difficulty some writers include all wealth in the definition of capital. When a wider view is taken of capital, all material assets are capital.

It may seem as if direct goods contribute nothing to the production of further wealth, but in a sense they do. Suppose all existing bedsteads suddenly disappeared. Shall we try to replace them or not ? If not, then we made a mistake in producing them originally. If we try to replace them, time would have to be devoted to their production, and during this time capital goods might have been produced which would have materially added to our income. Indirectly the output of wealth would be affected by diminution in our stock of direct goods.

Capital is a source of income. If the disappearance of a direct good, which would have to be replaced, affects our future income, that direct good is not merely wealth, but capital.

Capital is a stock while income is a flow. Real income consists in satisfaction or utility. Capital is a fund or store of utilities, since it yields income. But wealth in any shape or form is also a source of utilities. It follows that the distinction between direct and indirect goods, between wealth and capital, is more artificial than real. Both yield utilities, whether directly or indirectly.

3. CLASSIFICATION OF CAPITAL

Industrial Capital.—On theoretical grounds it is difficult to limit capital to indirect goods, but for practical purposes it would be best to include in a country's industrial capital only producers' goods, including raw materials and unfinished consumers' goods, and other goods which are used mainly as producers' goods, and incidentally as consumers' goods. All consumers' goods in the hands of consumers are excluded from industrial capital, but there is no agreement in regard to the exclusion of consumers' goods in the hands of producers.

The term *consumers' capital* is applied to goods consumed by workers when engaged in production. Raw materials, machines and other indirect goods used in production are then known as *auxiliary capital*.

Social capital has also been classified as *fixed* and *circulating*. Machines and building are fixed capital; the same machines and building are used again and again in the production of goods, until they wear out. Raw material is circulating capital—it can be used only once. A certain quantity of yarn has gone into the making of a yard of cloth. More yarn is required for producing another yard of cloth, but not a new factory or machines.

Specific or *specialised* capital is meant for a single purpose. *Non-specific* or *un-specialised* capital is capable of alternative uses.

Private Capital.—You are a cabinet-maker. What does your business capital consist in?

All furniture in your shop which is intended for sale or to be let for hire is capital. All tools and implements and other indirect goods used in making furniture are capital. All your money, whether in your till, or in the form of a working balance at a bank, is capital. Money or goods which you have set apart for your personal use or for use by your family are not part of your business capital.

An immaterial good, like the good-will of a business, is also capital. Good-will may be sold. Doctors in Europe frequently sell their practice.

Personal Capital.—A typist's machine, or typewriter,

is capital. But the typewriter would be of little use to a person if he or she did not know how to type. If the machine is a source of income, so also is the typist's skill.

Skill, dexterity, personal ability is capital. We may call it *personal capital*, in order to distinguish personal qualities as a source of income from dead, inert matter.

Land is a source of income, and in this sense land is capital. But we may make a distinction between man-made capital and capital provided by nature. Land and other free gifts of nature may therefore be called *natural capital*.

4. IMPORTANCE OF CAPITAL IN PRODUCTION

The importance of the rôle of capital in production is not sufficiently recognised in India, or we should talk less of *charkha* and *khaddar*.

Civilised life is impossible without the use of capital in the shape of aids to production.

Even the *charkha* is capital, but it is a simpler form of capital than a spinning machine.

The use of capital makes production roundabout. Instead of catching fish with bare hands, the primitive fisherman makes a net and a boat to catch more fish. He is adopting roundabout methods of production. Yarn has to be spun. For a few rupees we buy a *charkha* and start spinning. How very simple, how very easy! you say. In other countries they start digging for coal and iron, make spinning machines, and set up a spinning factory. What a complicated process, what a roundabout method of setting about so simple a task! But once spinning machines have been made, incomparably greater quantities of yarn are obtained than what the *charkha* can produce. And the cost of the yarn is lower. Roundabout methods of production are not adopted because they are roundabout but because they are found to be more economical in the long run.

The number of persons engaged in the manufacture of metals, machines, implements and conveyances in Great Britain in 1921 was 2,491,000, which figure exceeds the total number of factory employees in India (about 2 millions) at the present time. We do not manufacture modern machines

and implements. Our engineering works are mostly repair shops, or they manufacture simpler parts of machinery. In an industrial country the manufacture of capital goods occupies the largest proportion of workers. It is remarkable, but not incomprehensible, that the level of prosperity is higher where a considerable proportion of the population is engaged in making machines and other indirect goods than where an overwhelming majority of the population is producing consumable commodities, or direct goods. British workers do not care about producing food but they have more of it in the end than 71 per cent. of our population who are directly engaged in agriculture.

5. THE INDUSTRIAL REVOLUTION

A great change has come over India during the past 300 years. In the 17th century India was an exporting country, what a German economist calls *Ausfuhrland*. All countries export and import goods, but if other countries cannot get along without our products, we are an exporting country, and if we cannot get along without foreign imports, we are an importing country or *Einfuhrland* (*Fuehrer* as every one knows is 'leader', from 'fuehren', to lead; *ausfuehren* is to export, and *einfuehren* to import). In the 16th and 17th centuries we imported little from foreign countries except spices and articles of luxury meant for the upper classes. India was self-sufficient. But there was a considerable foreign demand for the products of our hand-workers, particularly cotton goods. The world paid for our exports in gold and silver. Gold and silver flowed from Europe to India in mighty streams and remained here, as the rivers flow into the sea.

Barbosa, a Portuguese traveller, thus refers to the ships that he saw at Aden in 1514: "And these ships of Cambay are so many and so large and with so much merchandise, that it is a terrible thing to think of so great an expenditure of cotton stuffs as they bring."

The products of our hand-loom were in demand in all parts of the world. Our hand-workers were more skilled than foreign hand-workers.

The position, however, changed rapidly with the change in the methods of production. This change is so important that it is described as the Industrial Revolution. The industrial revolution transformed British industry and made Britain the workshop of the world. The industrial revolution is mainly responsible for the destruction of Indian cottage industries, and for changing the entire character of our foreign trade and the balance of trade. To-day we are a debtor country, and meet our foreign obligations by exporting a surplus of agricultural products. Three hundred years ago, we were a creditor country which held the world in fee.

The revolutionising of British industry was due to a series of mechanical inventions. The invention of Kay's flying shuttle, which was mechanically propelled from side to side, more than doubled the weaver's pace. The improvement of spinning was due to Hargreave's spinning-jenny (1764), Arkwright's water-frame, which was so called as it was worked by water, and to Crompton's 'mule' which combined the principles of the spinning-jenny and the water-frame. The first power-loom, made by a clergyman named Edmund Cartwright, came into use in about 1789. Improvements followed, and machinery invaded other branches of the textile industry. By 1833, 100,000 power-looms were in use in England. James Watt perfected the steam-engine, and steam-power rapidly replaced water-power. England had coal and iron in the north, and the centre of industry shifted northward.

England maintained her lead as an industrial country for more than a hundred years, till about the end of the 19th century. This was a period of great prosperity for British trade and industry. Population increased rapidly, but the growth of numbers was accompanied by a considerable rise in real wages. The expansion of the Empire provided British industrialists with the export markets they needed. The industrial population required cheap food, which was secured by the abolition of corn-laws in 1846. The development of industries was at the expense of agriculture. Her top-sided development has made England dangerously dependent on foreign sources of food-supply.

The change in the methods of production could not have been fully utilised but for enormous changes in other fields. Side by side with the growth of industry means of communication and transformation were vastly improved. The ends of the world have been brought closer together and distance has been practically annihilated. The improvement and cheapening of ocean transport made it possible for England to import cheap food from overseas countries. We have already referred to changes in business organisation, notably the introduction of the principle of limited liability. Machinery made mass production of goods possible; the principle of limited liability provided the capital required for large-scale enterprise. Banking was developed, and a new form of money came into circulation—deposits. As we shall see later, deposits are created by a sort of conspiracy between bankers and their clients. The note-issue may be strictly limited by law, but no laws limit the creation of deposits. As the volume of British trade and production increased, there was a demand for increased supply of media of circulation. The demand was chiefly met by the expansion of deposit circulation, or cheque currency.

The industrial revolution and the changes accompanying it have given us the modern system of production. The new methods of production were adopted by one country after another. Till about the end of the 19th century England could afford to ignore foreign competition, though the industrial production of her chief rivals, Germany, United States and Japan, began to expand noticeably after 1875 (as is shown by the gradual increase in the share of these countries in our imports between 1875 and 1900). The first twenty years of the present century further reduced Britain's share in world trade.

6. RECENT CHANGES

The stream of inventions and improvements has not ceased to flow. Recent changes in technique, and particularly business management, are so important as to deserve the name of a second industrial revolution. The first industrial revolution took place in England in the last

quarter of the 18th century. The second began in America after the war. A Dutch writer, Mr. P. Lieftinck, makes a sharp distinction between the two.¹ The first, he says, was concerned with tangible methods of production. It gave the world specialised machinery, led to the concentration of labour in factories, and created the system of mass production. The second industrial revolution is more concerned with 'intangible' methods of industrial management. It has led to the organisation of production and sale according to new principles. But the line of demarcation between the two revolutions is not distinct. Progress since the Great War has not been limited to any one direction. Mass production and mechanisation have been developed side by side with fundamental changes in business management, and the two movements are inter-connected. 'Methodical production' is a necessary result of mass production.

Mechanisation of Industry.—Consider the progress in the mechanisation of industry. This consists in the division and sub-division of each task to be performed until it is reduced to a few simple, mechanical movements which can be easily learnt. In 1924, in the Ford works, only 1 per cent of all jobs (tool making and die-sinking for example) required 1 month to 6 years' training. For 36 per cent of all jobs the period of training was from 1 day to 1 week, and for 43 per cent of all jobs a training of just one day sufficed. The demand for skilled labour has diminished with the increasing mechanisation of industry. Mechanisation has also shortened the period of production. In 1920, in the Ford works, the period of production from the arrival of the ore at the plant to the shipment of the finished car was 21 days. It is now 30 hours.² A not less interesting aspect of mechanisation is the incredible saving of labour. In 1926, when German industrial organisation was far behind the American, the number of workmen required to make a complete motor-car in a German works was 120, in another 350 and in a third no less than 450, while Ford made a whole car with only $5\frac{3}{4}$ men.

¹*Economische Opstellen* (Haarlem, 1931), p. 172.

²*The Economic Tendencies of To-day*, by Stephen Viljoen, p. 145.

³*Die Arbeitslosigkeit der Gegenwart*, by M. Satizew, 1932 part II., p. 141.

Mechanised production requires huge initial capital investment. The cost of plant for producing a new model of the Ford car (1927) was estimated at 100 million dollars, or more than 27 crores of rupees.

Rationalisation.—Mechanisation is one example of rationalisation of industry. Another is the application of methods of psycho-analysis in the selection of workmen. Workmen are not enrolled haphazardly, but after careful tests. Time studies and motion studies help in discovering the best methods of performing a given task. The seats, platforms, speed and lighting are all carefully attended to—they affect productivity. The result is a great increase in production and decrease in cost. Between 1919 and 1925, in the United States, productivity per man-hour increased by 40 per cent in steel works and rolling mills, 52 per cent in cement manufacturing, 93 per cent in petroleum refining, 139 per cent in the manufacture of automobiles and 142 per cent in the manufacture of rubber tyres.

America leads in rationalisation, but the movement has affected all Western countries. In the East, Japan has modernised her industries and, aided by cheap labour, she is steadily expanding her industrial output, particularly that of essentially modern articles. The use of time-saving and labour-saving machinery, accompanied by standardisation of production and elimination of waste, explains how Japan is able to sell many things in India at prices which would have been considered impossible 20 years ago.

International competition is more intense to-day than it was before the Great War. The growing intensity of competition and the difficulties experienced by British manufactures in retaining their old markets account for some of the 'safeguards' in our new constitution. Britain did not need these safeguards 75 years ago.

7. THE AGRICULTURAL REVOLUTION

Agricultural methods have also changed. In India methods of cultivation to-day are probably the same as were employed several thousand years ago. An agricultural revolution has taken place in Western countries. The

revolution consists in the use of power-driven machinery in agriculture and increase in yields due to the progress of biological research.

The agricultural revolution, like the second industrial revolution, began in the United States.

Tractors.—Tractors were used on some American farms even before 1914. But their cost was high, and the price of wheat was not high enough to make it profitable to use them. The war raised the price of all agricultural products and the demand for tractors and other agricultural machinery increased. Large-scale production of agricultural machines lowered their cost, and soon the United States was making these machines not only for her own farmers but for export.

The principal exports were to four countries : Canada, Australia, Argentine and Russia.

In 1914, 270 combine-harvesters were manufactured in the United States, and in 1929 about 37,000. In 1916 about 30,000 tractors were manufactured in the United States ; in 1928 about 853,000 tractors were in use in that country.⁴

It is estimated that the value of the equipment per farm labourer in the United States was 2,000 dollars in 1925 as compared with 36 dollars in 1870.⁵

The use of the combine-harvester saves time and labour :—

“ The combine-harvester cuts the heads of wheat, leaving the straw standing, it carries the heads into a thrashing drum, thrashes, winnows, and bags the grain ; it weighs the bags, and they are then removed ready for despatch to the railway-siding. Machines are made to cut a 10 to 15 foot swathe, and with their aid two men can complete the harvesting of 50 acres of wheat per day. Grains need not be man-handled at all from the field right through to the bake-house. For the most effective use of the combine-harvester, the standing crop must be completely ripe and sufficiently dry to allow the wheat to be bagged within a

⁴ *World Agriculture* (Royal Institute of International Affairs). Chapter III (Oxford, 1932).

⁵ *The Agricultural Crisis* (League of Nations, 1931), p. 17.

minute of its being cut; moreover, the machine is only economical in use where large areas of wheat are harvested." ⁶

It is stated that in the United States a combine-harvester-thrasher usually harvests and thrashes wheat at a cost of about 3 to 5 cents a bushel; the cost of thrashing alone with the header or binder is more than 10 cents a bushel. As for the saving in time, it is found that a combine-harvester would harvest and thrash an acre of wheat with a yield of 15 bushels in three-quarters of an hour; with the sickle and flail, for the same amount of work 35 to 50 hours of labour would be required. ⁷

The area ploughed per day in Europe with a single-furrow plough driven by a pair of horses or a team of oxen varies from three acres to less than one acre. The average in England is probably less than $\frac{3}{4}$ acre. In the Punjab a pair of good oxen will plough about one acre in a day. One man with a 50 horse-power tractor can plough up to 20 acres per day. "The tractor-drawn seed drill can sow from 70 to 80 acres as against 10 to 15 acres with a horse-drill in England." With the ordinary drill about one acre is sown in the Punjab in a day, and with the automatic drill 3 to 4 acres.

We further learn that in certain cotton States in the United States each worker can look after 10 to 20 acres of cotton, but in Texas and Oklahoma, with the use of large machinery, 100 acres per man can be cultivated. ⁸ In the Punjab 2 pairs of oxen and 3 men can, on an average, manage 28 acres of cotton.

Biological improvement has proceeded side by side with mechanical progress. New types of wheat have been evolved which have enormously extended the area under wheat. It is estimated that through this means 100,000,000 acres have been added in Canada alone to the world's possible wheat fields. Certain types of wheat enabled the wheat belt of Canada to be extended west to the Rockies

⁶ *World Agriculture*, p. 37.

⁷ *Ibid.*, p. 39.

⁸ *Ibid.*, pp. 41-42.

and then north up to the Peace River District. Further :

"The work initiated by Farrer in Australia has certainly doubled the potential wheat belt, and similar work has resulted in opening hundreds of thousands of square miles in the semi-arid acres of Russia and of Russian Asia. The gigantic farms of the U. S. S. R. are indeed mostly in areas which could not, in normal years, have produced wheat until the plant-breeders evolved the new types.⁹

The researches of Dutch plant-breeders in Java have increased the yield of sugar more than three-fold.

The considerable increase in agricultural output, accompanied by reduction in cost of production per unit, was an important cause of the Great Depression.

8. ADAPTABILITY OF THE MODERN SYSTEM OF PRODUCTION

The modern, or capitalistic system of production, is excessively complicated. While goods are produced in response to demand, enormous distances often separate the producer from the consumer; further, it is necessary to sink many lakhs of rupees in plant and buildings before the production of a commodity can commence. In the meantime demand may change, rendering costly equipment idle, or of little value. Mistakes on the part of bankers of a leading country may precipitate a world crisis. The mechanism of capitalistic production is delicate, and liable to breakdowns and serious disorders. These disorders possess two characteristics—periodicity and synchronism. They recur from time to time, and they synchronise in different countries, that is, an important breakdown in one country causes breakdowns in other countries.

And yet the capitalistic system is both tough and elastic. It was thought that the last crisis would make an end of capitalism. Capitalism has survived the crises, though it has not emerged from the battle unscathed.

The capitalistic system of production possesses adaptability. This is clearly seen in a time of war. In India at the

⁹ Ibid, p. 45.

moment of writing, railway workshops are producing war equipment. Iron works may turn out shells. Factories for making sewing machines, by suitable alterations, begin to manufacture machine-guns.

By making changes in the last stages of manufacture, a country may increase the supply of one and reduce the supply of another product. To have more fine and less coarse cotton goods, it is not necessary to grow more cotton, or to dig for more coal and iron.

Production changes with demand. The adjustment of production to demand is not perfect, but that there is a strong tendency towards such adjustment under capitalism, working freely without interference on the part of Government, cannot be denied. That is not to say that free competition, or *laissez faire*, yields the best results in practice. It does not.

In a time of war a great strain is placed on labour supply. There is a drain of men to the forces where conscription is enforced, but the place of men in factories is taken by women. Labour may be trained for new occupations. Under the stress of war, the number of trained drivers of motor vehicles in India has increased to forty times the pre-war figure. (The mechanisation of cavalry has increased the demand for trained drivers). Indian labour is also being trained for other war industries, both in India and England. This training would not be wasted. It would be of great value for peace-time production when the war ends.

✓ Capitalistic production is, however, planless. There is no central planning under capitalism; it is millions of independent firms which separately plan their own production. And competition under capitalism is also not entirely free. Large-scale production favours the growth of monopolistic and semi-monopolistic combinations. The tendency towards concentration is inherent in capitalism.

Capitalism is based on freedom of initiative and enterprise; individual responsibility is the very life of the system. But everywhere a system of artificial control and regulation is developing which is the very antithesis of freedom. It is felt that uncontrolled capitalism in practice does not pro-

duce the best results.

The transition from the present system of restricted freedom and ever-increasing State regulation to a planned economy is an inevitable transition. As Werner Sombart, the great German historian of capitalism, says:—

"The present is characterised by planless control and regulation, as the past was by planless freedom and individual choice; the future will be characterised by planned development of the economic system."

State policy, under a system of planless State control and regulation, does not directly determine the quantity or quality of the goods produced—these ultimately depend on the decisions of individual producers. For example, heavy duties imposed on imported sugar have created an Indian sugar industry, but the State has no control over the number of factories set up or the amount of sugar produced in them. Through the sugar excise it is sought to diminish the incentive to sugar-manufacture, so that there is no over-production of sugar, as there was over-production of cement some time ago. Such intervention by the State may sometimes do more harm than good—in any case, it is essentially different from economic planning of which Sombart speaks.

Laissez Faire is Dead.—Economic planning is winning adherents everywhere. Sir Basil Blackett, in the course of his Halley Stewart Lecture (1931), said: "I wish to put before you this evening the view that conscious, corporative planning is not only a desirable means of progress but an unavoidable necessity if we are to save the economic structure of modern civilization from disaster, and that the immediate task to which we should bend all our energies is to prove to ourselves and to the world that planning is consistent with freedom and freedom with planning."

Sir Basil Blackett expressed his thorough dissatisfaction with *laissez faire*. Science and invention, by increasing enormously the size of the business unit, have rendered invalid the assumptions on which the theory of *laissez faire* is founded. Mobility of labour and capital is not so

¹ *Zukunft des Kapitalismus*, p. 18.

great now as we are wont to assume. When huge businesses are created, with millions of pounds, or crores of rupees sunk in them, and thousands of labourers employed in them, over-production causes havoc, because it is not possible to speedily convert specialised fixed capital to other uses, or to divert masses of skilled labour to other employments. When, at the same time, it is considered that there is a growth of industrial production, with modern appliances, all over the world, the danger of production outstripping consumption becomes still more real. Under such conditions planned production, or deliberate adjustment of supply to demand, is a safer course than unregulated, un-co-ordinated production which results from the independent choices of individual producers. One has no difficulty in agreeing with Sir Basil Blackett that "the whole body of *laissez faire* doctrine, the undiluted individualistic philosophy of Bentham and his school, has broken down, is dead, and ought to be buried."

CHAPTER VII

MARKETS

In ordinary language a market is a bazar, and in a bazar anything and everything may be sold. In economics, however, the term market has no reference to a place where goods are bought and sold, but to a single commodity and the buyers and sellers of that commodity who are in free competition with one another.

It follows that there may be two markets in a single commodity, a wholesale and a retail market. Wholesale dealers compete with wholesale dealers and retailers with retailers.

When competition is perfect, the same price will be paid for a commodity in all parts of a market at any one time, the quantity and quality being the same.

A commodity may enjoy a purely local, or provincial or national market. In the case of commodities like gold, tea and wheat, the market is world-wide. The price of gold, or any other commodity which is in world demand, will be the same in different countries, allowance being made for differences due to cost of transportation and export or import duties. If India exports wheat, the price of wheat will be lower in India than in the importing countries.

1. EVOLUTION OF MARKETS

The evolution of markets is marked by four stages.

The buyers and sellers in the beginning meet at a particular place and the buyer wants to see the whole of the commodity that he proposes to buy. But suppose you are buying one thousand maunds of wheat for milling. Is it necessary for you to inspect every single grain?

—مشتی نمونه از خروارے—a handful taken from a heap is a reliable sample. Without seeing the 1,000 maunds you may

order them if the sample is satisfactory.

If the commodity has been graded, even a sample need not be inspected. M.G.F.G Broach is a recognised grade of raw cotton. This grade stands for a definite quality of cotton. You may order a thousand bales of M.G.F.G. Broach without seeing a sample. Similarly coal has been graded. When you read in the commercial papers that the price of Jheria *f.o.r.* (free on road) is Rs. 5-4-0 per ton you know the quality of coal that is meant.

The Indian Coal Grading Board was constituted in 1925 and commenced operations in 1926. The object of this Board is to ensure that only good-sized coal is exported. The Coal Grading Act prevails for the grading of seams of coal and for the grant of certificates for coal intended for export.

In a localised market goods are exhibited for sale, as in a cattle fair. Cattle are not sold by sample or by grade. But many classes of raw produce and materials are bought and sold within the country and exported and imported by means of sampling and grading.

Finally, there is a tendency towards specialisation of markets. With the development of means of communication and transportation and the consequent growth of demand, the original mixed market splits up into a textile market, a cattle market, a hardware market and so on. The differentiation of markets assists both buyers and sellers.

2. CONDITIONS OF A WIDE MARKET

The whole world is one market for gold and silver, but not for bricks. To enjoy a wide market a commodity must not be too bulky. Gold contains great value in small bulk. The cost of transportation of bricks is heavy. Therefore bricks are always locally manufactured.

Secondly, the commodity must be widely and generally demanded. For fancy goods the market is more limited in extent than that for tea, or jute or wheat.

Improvement of means of communication and transportation widens the boundaries of a market. Indian or

Canadian wheat is sold in England because of the cheapness of ocean transport. Very little wheat was exported from India before the opening of the Suez Canal, for the voyage round the Cape of Good Hope took three months, and weevils (گند) got time to spoil the wheat.

3. SPECIALISED MARKETS

Just as there are localised and specialised markets for commodities (*Kasera Bazar*, *Bazaz Hatta* in Lahore for example), there may be a specialised market for labour. At present the labour market is unorganised. Labour is engaged by large employers either directly or through agents who are in touch with labourers. Educated young men in search of employment are guided by the 'Wanted' column in newspapers, or are assisted by friends and relations, or Service Securing Agencies. Some time ago a University Employment Bureau existed in Lahore. If all graduates in search of employment got themselves registered in an office, which kept itself in touch with prospective employers, jobs would be found for them with less difficulty than at present. Such an office is known as a Labour Exchange.

There is a market in real estate. Real estate means landed property. Generally land and houses are bought and sold through real estate agents, or brokers, who charge a commission for their services.

The money-market is a market for loans. The Indian money market is composed of indigenous as well as foreign elements. The Reserve Bank occupies an authoritative position in the Indian money-market. It is a bankers' bank. Next in importance are the joint-stock banks, which finance internal trade. The *shroffs* in the Presidency-towns are men of considerable financial resources who compete with the joint-stock banks in their business. Our foreign trade is financed by Exchange banks, which may be divided into two groups,—banks doing a considerable portion of their business in India, and banks which are merely agencies of large banking corporations doing business all over Asia.

The village Mahajan still remains the centre of rural finance—co-operative credit societies help five or six per cent

of the cultivators with loans (about 14% in the Punjab). The importance of the part played by the Mahajan in the moving of crops cannot be exaggerated. He finances (a) agricultural operations, which is financing industry, and (b) trade, which is a commercial function. The insurance companies, both Indian and foreign, provide a market in insurance. It is as yet a limited market, but, capable of great expansion with the rise of national income and spread of literacy.

The Indian joint-stock and the foreign Exchange banks provide a market in foreign exchange. A rate of foreign exchange is the rate at which Indian money can be converted into the money of a given foreign country. When the daily papers quote the rupee at 1s. 6½d., it means that by paying a rupee in India one can acquire the right to receive 1s. 6½d. in London. A traveller to Europe may provide himself with the money of any important country at Bombay. This is true of times of peace. In a time of war all dealings in foreign currencies are strictly controlled by Government.

4. THE STOCK EXCHANGE

A stock exchange is a market for invested capital. Stocks and shares, Government bonds and paper are bought and sold on the stock exchange. A share represents capital which has already been invested. When a share is bought by A from B, invested capital has changed hands; no new capital has been invested in the industry.

There is no organised market in India for investing capital. One is guided by prospectuses issued by new companies, advertisements in newspapers, comments in financial papers, information obtained through private sources, and in big towns, by the advice of firms of stock-brokers of established repute. Messrs Place, Siddons and Gough of Calcutta issue an *Investors' Year Book* which is a store-house of information about yields and prices of securities dealt in on the Calcutta Stock Exchange.

It is not merely investors who buy stocks and shares, but also speculators. The investor is interested in the yield of the security he buys. The speculator hopes to make a

profit by selling it again.

Bulls and Bears. Suppose you buy a share on the stock exchange for Rs. 100 through a broker. The seller is a jobber, who is always prepared both to buy and sell securities. Two prices are quoted by the jobber for a share Rs. 100—100½, which means that he is prepared to buy at the lower and to sell at the higher price. The difference is known as the jobber's turn.

You have bought the share, hoping that when the settlement day comes, the price will have risen. The speculator who buys hoping that the price will go up, is known in the slang of the stock exchange as a 'bull.' If you ever had an encounter with a bull you cannot have forgotten that a bull tosses one up.

If the price actually rises to, let us say, Rs. 102, you receive Rs. 2 from the seller as profit (less brokerage, etc.). You may insist on the delivery of the share, but speculative buyers generally do not care to take delivery. If the price has fallen to Rs. 98, you will be required to pay Rs. 2.

The price having fallen, suppose you wish to continue the transaction till the next settlement day. The seller may be persuaded to do so for a consideration known as *contango*. The *contango*, paid by the bull, is not merely a rate of interest. What you have lost on account of the fall in the price of the share must, of course, be paid before the transaction can be continued.

A 'bear' is a person who sells hoping that the price will fall. A bear tears things down. Suppose you had sold a share for Rs. 100. You would be a loser if the price rose to Rs. 102, for according to the terms of the contract you would be forced to sell the share at Rs. 100, when the current price was higher. But you would gain 2 rupees if the price fell to Rs. 98.

Suppose the price rises and, as a bear, you wish to continue the transaction. You may persuade the bull to do so on paying him a consideration known as *backwardation*. This again, like the *contango* rate paid by the bull, is not merely a rate of interest.

Suppose you are a bull and had bought a share for Rs. 100. On the settlement day the price has fallen to Rs. 98. Would

you not wish you could get out of your contract to buy at Rs. 100 what is selling at Rs. 98? You might so wish, if you had bought 10,000 or more shares at Rs. 100 each.

A 'call' option gives you the right to buy or to refuse to buy. You have to pay for the call option. Suppose you have paid Re. 1 per share for the right to buy or to refuse to buy. Then by exercising your option when the price falls to Rs. 98 you will effect a saving of Re. 1 per share.

A 'put' option is the right to sell or to refuse to sell. If you had agreed to sell at Rs. 100 and the price had risen to Rs. 102, you would lose Rs. 2 per share. If you had bought a 'put' option for Re. 1 per share, by exercising the option you would save Re. 1 per share.

A double 'put' and 'call' option gives you the right either to buy or to sell. It may seem that having bought the double option, you must win, whether the price rises or falls. But you may still lose if the extent of the rise or fall in price is less than the price of the double option. If the double option cost you Rs. 2 per share, and the rise or fall in price is just Rs. 2, you gain neither by buying nor by selling. If the price rose or fell by more than 2 rupees, you would gain by exercising your option to buy or to sell.

5. THE PRODUCE EXCHANGE

Suppose you wish to speculate in wheat. You may become a member of the Lahore Grain Merchants' Association by signing their membership form and thereby agreeing to abide by the rules of the Association. Rule 2 binds you to enter into future transactions only with firms recognised by the Association. Rule 3 requires you to own assets not less than Rs. 5,000 in value. In cases of dispute, the decision of the Association, or of arbitrators appointed by the Association, will be final.

A forward transaction is an agreement to buy or sell anything in the future at a price fixed in the present. One may buy wheat 'spot' (*hazir mal*), taking delivery in the present at an agreed price. Or one may buy future wheat, at a present price—the delivery will be made at an agreed

future date. If the price rises, the buyer gains ; if it falls, the buyer loses. Usually only differences are paid but the buyer has always the right of demanding delivery of what he has bought, and the seller has the right to make delivery of what he has sold.

Before being allowed to buy or sell wheat (in quantities not less than one *kotha*, equal to 500 maunds), you will be required to accept the rules framed by the Lahore Grain Merchants' Company to regulate future dealings in wheat and gram. Under rule 5 you will deposit with the Company Rs. 100 as 'margin' money per *kotha* of wheat bought or sold. This sum must always be kept intact, whether prices rise or fall. Failing to keep this 'margin' money as deposit with the Company, the Company may at any time cancel any transaction entered into by you, or settle it at its own will or pleasure. You will be responsible for any loss that may thus arise and also for the incidental expenses.

We first consider conditions of delivery of wheat or gram in *Jeth—Har*. *Jeth* corresponds to 12th May—9th June, and *Har* to 10th June—8th July.

B has bought *Jeth—Har* wheat from S in the month of March. Then S, the seller is entitled to ask B, the buyer, by notice to take delivery at any date between 16th *Jeth* to the end of *Jeth*, and the buyer B is entitled to demand delivery by notice at any date from 1st *Har* to 14th *Har*. On 15th *Har* either B or S may demand to make or take delivery.

If the transaction relates to *Asauj* (6th September to 5th October) S is entitled to issue notice of delivery at any date from 1st to 15th *Bhadaun* (*Bhadaun* begins on 8th August and ends on 5th September). The buyer may demand delivery by notice at any date between 16th *Bhadaun* and the end of *Bhadaun*. On the 1st of *Asauj* either B or S may demand to make or take delivery.

For transactions relating to *Maghar* (November 4 to December 31), *Magh* (January 14 to February 11), *Chet* (March 14—April 11) and *Baisakh* (April 12—May 11), conditions of delivery are the same as for *Asauj* transactions: During the first 15 days the seller can issue notice of delivery, and during the latter 15 days the buyer can demand

delivery by notice. On the last day of the month, either the buyer or the seller can make or demand delivery.

When delivery is offered or demanded according to notice, the transaction must be completed within two days.

If, when delivery is demanded, the seller does not deliver the goods, the Company will buy the goods spot and deliver them to the buyer at the cost of the seller.

✧ If the buyer refuses to take delivery, the Company will do so on his behalf, and sell the grain again; any loss arising thereby will have to be borne by the buyer.

A buyer, before demanding delivery, is obliged to deposit 25 per cent. of the value of the goods with the Company.

A seller, after having made delivery, can receive the value of the goods from the Company.

Allowances.—No allowance is paid on 'touch' wheat, if it contains 4 per cent. barley or gram (جو stands not only for barley but any food-grain), 2 per cent. dirt, 30 per cent. red wheat and 64 per cent. white wheat. No allowance is paid if the wheat delivered is 2 per cent. shrivelled, 3 per cent. 'touched,' $\frac{1}{2}$ per cent. 'damaged,' 1 per cent. weevily in *Savan-Bhadaun* and 2 per cent. weevily in *Asauj*. When edges of grains of wheat are very slightly darkened by rain or damp, wheat is said to be 'touched.' When rain or damp has darkened whole grains or half or more than half of the grain, wheat is said to be 'damaged.' Weevily wheat is wheat spoiled by insects called 'weevils.' Shrivelled wheat is wheat which has a dried-up or shrivelled appearance. Wheat which is 6 per cent. barley or gram, 3 per cent. dirt, 5 per cent. 'touched,' 3 per cent. 'damaged,' 5 per cent. weevily, 10 per cent. shrivelled, and more than 48 per cent. red, cannot be delivered. Wheat which is spotted, old or damp cannot be delivered.

Allowances have to be paid by the seller at the following rates:—

Eight annas per cent. (per 100 rupees worth of wheat) if wheat delivered contains more than 4 per cent. barley or gram, but only for the excess percentage of barley or gram.

One rupee per cent. on the excess of dirt over 2 per cent. dirt allowed.

Eight annas per cent. on damage in excess of $\frac{1}{2}$ per cent. damage allowed. Eight annas per cent. for 'touched' wheat, and four annas per cent. on the excess of weevily and shrivelled wheat over the allowed percentages of weevily and shrivelled wheat.

Three pies per 5 per cent. per maund on the excess of red wheat over 30 per cent. of the wheat delivered.

A premium is paid by the buyer if the wheat contains less dirt and barley at the rate of one rupee per cent. for dirt and eight as. per cent. for barley. No premium is paid if the percentage of weevily and shrivelled wheat is less.

If, after delivery, it is found that the actual weight falls short of the true weight by half a *seer* per bag, only half a *seer* per bag more will have to be delivered by the seller. If the deficiency exceeds half a *seer*, it will have to be made good at the rate of 125 per cent. Deficiency or excess amounting to $\frac{1}{4}$ *seer* per bag is ignored. If the excess is greater than $\frac{1}{4}$ *seer* per bag, it will have to be returned by the buyer.

The practice in regard to the payment of the premium varies in different *mandis*. Sometimes the agreement is 'non-mutual,' that is allowances are paid by the seller under the stated conditions of delivery but premiums are not paid by the buyer.

When a seller is not in a position to deliver the goods, he may be allowed to continue the transaction at a new price more favourable to the buyer. But all old accounts must be settled on the due date. Similarly a buyer may be allowed to continue the transaction on a price more favourable to the seller, if he is not in a position to take delivery of the goods. But the old account must be closed. If the price has fallen, the buyer must pay the difference between the agreed price and the current price.

6. HEDGING

Forward dealings make it possible for dealers to hedge, and thus to protect themselves against risk of loss on account of a price change.

Suppose a miller has bought 10,000 maunds of wheat for milling at Rs. 3 per maund. Three months later the price may fall to Rs. 2-8 per maund, which would inflict on him a loss of Rs. 5,000. The price may rise to Rs. 3-8, in which case he would make an incidental gain of Rs. 5,000, but the miller seeks to make a profit by milling, not by speculation. How can he avoid the risk of loss due to a fall in the price of wheat?

Having bought 10,000 maunds at Rs. 3 per maund in the spot market, he sells an equal amount forward at the current price for forward wheat in the forward market. If the price of wheat fell three months later, he would lose on the wheat that he had purchased spot, but gain on the forward transaction. The gain may completely, or in great part, offset the loss.

Hedging is betting on both sides. I bet against a horse

and, with a different person, in favour of the same horse, the amount of the bet being equal in the two cases. Whether the horse wins or loses the race, I gain or lose nothing.

The miller, if his hedge is complete, has fully protected himself against loss. Should the price of wheat in the future happen to rise, he would lose on the forward transaction, but gain on the wheat that he had purchased spot. Freed from worry about fluctuations in the price of wheat, he can devote his whole attention to his proper work, milling.

7. ADVANTAGES AND DANGERS OF SPECULATION

Speculative buying and selling of commodities, when the speculators are experts, has a steadying effect on prices.

Suppose the present price of wheat is low, and an expert thinks that the price is going to rise. He will buy in the present to sell in the future. If other experts are doing the same, the price will tend to rise in the present and it will be lower in the future than it would have been otherwise—for future supplies have been augmented by speculative buying.

If experts think that price is going to fall, they will hold up their demand. Demand is reduced in the present, which would tend to lower the price. Future demand is increased, so that future price would tend to be higher than it would have been otherwise.

Thus speculation by experts tends to bring about a better adjustment of supply to demand and to equalise prices in the present and the future.

But all dealers are not experts. An expert does not know what the price of cotton or wheat will be two or three months hence. But he bases his judgment on the available facts regarding production and demand. If I am totally ignorant of present supplies of a commodity in India, or how they may be increased or reduced by imports or exports, if I have taken no pains to study the world forces acting on the price of that commodity but am guided in my speculation by astrologers, as many of our speculators are, my guess as

to future price is more likely to be wrong than right. I will buy when I should sell, and I will sell when I should buy. Such speculation, instead of making prices steady, causes them to fluctuate violently.

A 'Corner.' Another cause of price unsteadiness is 'cornering' (also called 'rigging'). If, for a time, I am able to control the supply, or the greater part of the supply, of a commodity, I have 'cornered' that commodity. Suppose I am attempting to corner cotton. I will then buy up all the available supplies of cotton. The cornering of cotton will cost crores of rupees. If the corner is successful, I will sell cotton at my own price, which will be high, and thus realise an enormous profit.

Cornering is not easy. But speculators often seek to alter prices to their own advantage by spreading rumours. Suppose I have bought large supplies of wheat in the hope of a rise of price. But price shows no tendency to rise. I deliberately spread a rumour that Government will shortly buy large quantities of wheat for export to the Middle East, or that the next crop will be much shorter than expected. As soon as price has sufficiently risen, I sell out and leave others to 'hold the baby.'

Similar tactics are sometimes adopted to raise the prices of industrial shares. Rumours are spread deliberately that a company has discovered new markets for its goods, that it is going to pay higher and higher dividends, and a show is made of buying its shares when there is no intention of holding the shares for long. The public is misled and begins to buy the shares, thus raising their price. The suitable moment for 'unloading' having arrived, the manipulators sell out at inflated prices. The inevitable fall in price inflicts heavy losses on the gullible public.

The New York Stock-Exchange Crash, 1929. The world crisis of 1929 was preceded by a stock-exchange crash in the United States which ruined hundreds of American speculators. Before the crisis business profits in the United States were increasing, though commodity prices had not risen markedly. Profits increased considerably because improvements in methods of production and management had brought down costs. The very high profits earned in

the automobile industry, for example, led to over-investment in that field, and the capacity of the industry 'reached the most amazing proportions.'

With the growth of industrial profits speculation grew and prices of industrial stocks leapt up. Kemmerrer thus describes the situation :

"Prices of stocks on our exchanges rose to figures out of all proportion to the earnings, actual or prospective, of the respective companies...From September 1924 to September 1929 the mean of the monthly high and low daily averages of prices of 351 industrial stocks, as given by the Standard Statistics Company, rose from 70.7 to 216, and for 33 railroad stocks from 79.3 to 168.1. The volume of monthly sales on the New York stock-exchange increased during the same period from 18 million shares to 100 million shares."¹

Much of this activity was purely speculative, and the speculative boom in shares was followed by the inevitable crash. Very often speculators speculate with money borrowed from the banks. So long as credit was easy, loans could be obtained cheaply. When bankers, growing nervous, stiffened their rates and restricted credit, the boom suddenly ended and prices of stocks and shares fell as sensationally as they had risen. Between June 1929 and June 1932 the prices of 351 industrial stocks fell from 191 to 34 (1926=100), of 33 railroad stocks from 145 to 14, and of 37 public utility stocks from 233 to 55.

Suppose you had bought stocks issued by public utility companies (gas supply or water supply companies) worth ten lakhs of rupees at the average price of 233 rupees. The fall in average price to rupees 55 would reduce the value of the stocks in your possession to a little more than 2½ lakhs. You may well wish you had never been born !

The fate of speculators in America, and the fact that the stock-exchange collapse plunged the United States into chaos and precipitated a violent crisis in the rest of the world, have led many writers to emphasize the danger of speculative activities divorced from production. Speculation, as we have seen, tends to steady prices. The speculator does

¹ *Facing the Facts*, p. 7.

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APPENDIX TO CHAPTER VII .

Rules framed by the Lahore Grain Merchants Company Limited, Lahore, to regulate forward transactions in Wheat and Gram

مقام لاہور۔ مؤرخہ ماہ ۱۹۰۶ء

بخدمت ڈائرکٹر صاحبان

دی لاہور گرین مرچنٹس کمپنی لمیٹڈ، لاہور

(۱) ہمارے جملہ سوداجات ہمراہ کمپنی رجسٹر ہونگے جس پر ہمارے یا ہمارے کارندے کے دستخط ہوں گے۔

(۲) ہم تمام سوداجات ہمراہ کمپنی اس خیال کو مدنظر رکھ کر کریں گے، کہ ہم کو بمقام لاہور مال کی ڈلوری جیسی کہ صورت ہو اپنی یا دینی پڑیگی۔

(۳) کمپنی کا ہمارے ساتھ ہیکی آڑھت کے اصول پر کاروبار ہوگا۔

(۴) ہمیشہ یہ تصور ہوگا، کہ ہمارا معاہدہ سودا یا سوداجات مقام لاہور تکمیل ہوا ہے۔

(۵) کمپنی کے نوٹس ملنے پر فوراً مارجن منی بشرح ذیل کمپنی کے دفتر میں ادا کرنا ہمارا فرض ہوگا، زر بیعانہ گندم و نخود فی سودا وزنی پانصد من مبلغ یکصد روپیہ ہوگا۔

(۶) اگر ہم زریعانہ بطریق فقہرہ شرط نمبر (۵) کمپنی کے دفتر میں جمع کرانے سے قاصر رہینگے تو کمپنی کو حق ہوگا کہ کسی وقت ہمارے معاہدہ کو مسترد (کینسل) کر دے یا اپنی مرضی پر معاہدہ کو جاری رکھے، اس طور پر معاہدہ جاری رکھنے کی صورت میں کمپنی کو ہر وقت معاہدہ کو سیٹل کر دینے کا اختیار ہوگا۔ اور اس طرح کمپنی کے سودا سیٹل کر دینے پر جو نقصان ہوگا اسکی ادائیگی بمعہ اخراجات متعلقہ کے ہم ذمہ وار ہونگے۔

(۷) زریعانہ حسب شرط نمبر ۵ داخل کرنے کے بعد بھی ہمارا یہ فرض ہوگا کہ نرخ اجناس متعلقہ کی بڑھا گئی کو مدنظر رکھتے ہوئے ہم اپنا زریعانہ کمپنی کے پاس (intact) رکھیں اگر ہم ایسا نہیں کرینگے تو کمپنی کو اختیار ہوگا، کہ وہ ہمارے سودا جات ہمارے حساب میں ہماری ذمہ داری پر بھاؤ بازار پر سیٹل کر دے، اور کمپنی کے ایسا کرنے پر جو نقصان واقع ہوگا اسکی ادائیگی کے بمعہ کل اخراجات متعلقہ کے ہم ذمہ وار ہونگے۔

شرائط ڈلوری مال حسب ذیل ہیں

(۸) وعدہ جیٹھہ ہاڑ۔

(الف) فروخت کنندہ کو اختیار ہوگا کہ وہ ڈلوری آرڈر

۱۶ جیٹھہ سے آخر جیٹھہ تک نکال سکتا ہے۔

خریدار طلبی نوٹس یکم ہاڑ سے ۱۴ ہاڑ تک نکال

سکتا ہے اور پندرہ ہاڑ کو فروخت کنندہ و خریدار

ہر دو فریقین بالترتیب ڈلوری آرڈر و طلبی نوٹس نکال سکتے ہیں۔

(ب) اسوج کی متی کیلئے فروخت کنندہ کو حق ہے کہ یکم بہادوں سے لیکر پندرہ بہادوں تک مال وزن کرنے کیلئے ڈلوری آرڈر جس وقت چاہے نکالے، اسی طرح خریدار ۱۶ بہادوں سے لیکر آخر بہادوں تک طلبی نوٹس مال وزن کرانے کیلئے کہنی کو بھیج دے، یکم اسوج کو فروخت کنندہ و خریدار ہر دو ڈلوری آرڈر و طلبی نوٹس بموجب قواعد ایسوسی ایشن نکال سکتے ہیں، بقایا متی ہائے یعنی مگھر، ماگھ، چیت و ویسا کہہ کے قواعد ڈلوری وہی ہونگے جو کہ اسوج متی کے ہیں، گویا ہر متی کے پندرہ دن فروخت کنندہ کیلئے اور بقایا پچھلے دن خریدار کیلئے ہوں گے متی کا آخری دن دونوں فریقین کے واسطے ہوگا۔

(۹) ڈلوری آرڈر نکالنے پر فروخت کنندہ خریدار کو دو دن کے اندر مال وزن کریگا، اسی طرح طلبی نوٹس کی صورت میں خریدار فروخت کنندہ سے دو دن کے اندر مال وزن کراے گا۔

(۱۰) اگر ہم فروخت کنندہ ہونگے تو ہم پر لازم ہوگا کہ ہم کل سودوں کی جو بقایا کھڑے ہیں، مقررہ تاریخ پر حسب شرائط مندرجہ بالا ڈلوری آرڈر نکالیں جسکی میعاد بھگتان مہال دو دن

ہوگی، اگر ہم ایسا کرنے میں قاصر رہینگے یا پرچی نکال کر اندر میعاد مذکور خریدار بیوپاری کو ڈلوری نہیں دیں گے، تو کہنی کو اختیار ہوگا کہ وہ ہمارے کھاتہ میں حاضر جنس ملنے پر جنس خرید کر خریدار کو ڈلوری دے دے یا اسکے ساتھ سیٹل کر دے، اس صورت میں اگر کوئی خسارہ ہوگا تو اسکی ادائیگی بمعہ تمام اخراجات متعلقہ کے ہم ذمہ وار ہونگے۔

(۱۱) اگر ہم خریدار ہیں تو ہم پر لازم ہوگا، کہ ڈلوری آرڈر کہنی سے موصول ہونے پر پرچی بھگتان کی میعاد یعنی دودن کے اندر ڈلوری مال لے لیں، اگر ہم ایسا نہیں کریں گے تو کہنی کو بعد گذر نے میعاد مذکور جسوقت خریدار ملے ہمارے کھاتہ میں مال فروخت کر دینے یا سیٹل کر دینے کا اختیار ہوگا اور جو نقصان فروختگی مال سے ہوگا، اس تمام نقصان و اخراجات متعلقہ کے ادا کرنے کے ہم ذمہ وار ہوں گے۔

(۱۲) اگر ہم خریدار ہوں گے تو طلبی نوٹس نکالنے سے پیشتر دفتر کہنی میں لازماً پچیس فی صدی قیمت مال جمع کرائیں گے۔

(۱۳) اگر ہم فروخت کنندہ ہیں، تو ہم ڈلوری مال کی دینے کے بعد دفتر کہنی سے روپیہ حاصل کر سکتے ہیں۔

(۱۴) بموقعہ ڈلوری مندرجہ ذیل نیچ کی اجناس ہم کو منظور ہونگی :-

ٹچ گندم ۴ ٹکے جو، ۲ ٹکے مٹی، ۳ ٹکے لال گندم، ۶ ٹکے سفید گندم، ۲ ٹکے شریول، ۳ ٹکے ٹچڈ ڈمیج آدہ ٹکے، ویول

ساون بھادوں میں ۱ ٹکے اسوج میں ۲ ٹکے والا مال بغیر الاؤنس کے وزن ہوگا، لیکن ۶ ٹکے جو و نخود، ۳ ٹکے مٹی ۵ ٹکے ٹیچڈ ۳ ٹکے ڈیمپج، ۵ ٹکے ویول، ۱۰ ٹکے شریول لال گندم ۸ ٹکے سے زیادہ والا مال ڈلور نہیں ہوگا، گندم داغدار پرانی و بھیگی ہوئی وزن نہیں ہوگی۔

ٹچڈ نخود مٹی ۲ ٹکے، جو و کنک ۲ ٹکے، ڈیمپج آدہ ٹکے، کالا دانہ ۱ ٹکے، ویول ہاڑہ میں ایک ٹکے ساون بھادوں میں ۲ ٹکے اور اس کے بعد ۳ ٹکے بغیر الاؤنس کے وزن ہوگا، لیکن مٹی ۳ ٹکے جو و گندم ۵ ٹکے ڈیمپج ۲ ٹکے ویول ۷ ٹکے سے زیادہ والا مال ڈلور نہیں ہوگا۔

الاؤنس مندرجہ ذیل شرح پر لگیگا:-

گندم میں جو و نخود زائد از ۳ ٹکے بحساب ۸ آنے سینکڑہ فی ٹکے، مٹی زائد از ۲ ٹکے بحساب ایک روپیہ سینکڑہ فی ٹکے، ڈیمپج زائد از آدہ ٹکے ۸ آنے سینکڑہ فی ٹکے ٹیچڈ، ویول شریول زائدہ پر ۳ آنے سینکڑہ فی ٹکے، لال گندم زائد از ۳ ٹکے ۳ پائی فی پانچ ٹکے، فی من گندم میں مٹی و جو کم نکلنے پر پریمیم مٹی ایک روپیہ سینکڑہ فی ٹکے جو ۸ آنے سینکڑہ فی ٹکے شمار ہوگا، ویول، ڈیمپج، ٹیچڈ، شریول کم نکلنے پر پریمیم نہیں لیا دیا جاویگا۔

نخود میں مٹی زائد از ۲ ٹکے ایک روپیہ سینکڑہ فی ٹکے، دیگر تمام اجناس زائد از ۲ ٹکے ۸ آنے سینکڑہ فی ٹکے، ویول زائد

۴ آنے سینکڑہ فی ٹکھ ہوگا کالا دانہ زائد ۱۰ ٹکھ ۴ آنے سینکڑہ فی ٹکھ۔

۳ ڈلوری کے بعد اگر آدہ سیر بوری کم ہو گٹھاؤتی بوری یعنی آدہ سیر بوری ہی لینی دینی پڑیگی، اگر آدہ سیر سے زیادہ گٹھاؤتی ہوگی تو گٹھاؤتی 1½ (سوائی) لینی دینی پڑیگی اگر بوری کا وزن پاؤ بوری یا اس سے کم زیادہ اتریگا تو بڑھتی مجرا نہیں لیجاویگی، اگر وزن پاؤ بوری سے زیادہ ہوگا، تو ایسی صورت میں سارا وزن جتنا زیادہ ہوگا لینا دینا پڑیگا۔

(۱۵) اگر کوئی تنازعہ سوداجات کے متعلق کہنی اور ہمارے درمیان پیدا ہو جاوے تو وہ دو ٹالٹان کے سپرد کیا جائیگا، لاهور گرین مرچنٹس ایسوسی ایشن کے ممبروں میں سے ایک شخص کو ہم ٹالٹ مقرر کر لیں گے اوز ایک کو کہنی مقرر کریگی، بصورت اختلاف رائے ٹالٹان کو اپنا سر پنچ مقرر کرنا ہوگا، مگر تقرری سر پنچ کے بارہ میں اگر ٹالٹان کے مابین اختلاف رائے ہو جائے تو اس صورت میں دی لاهور گرین مرچنٹس ایسوسی ایشن کے پریذیڈنٹ یا انکے قائم مقام کو سر پنچ مقرر کرنے کا اختیار ہوگا، اور اگر باوجود کہنی کے نوٹس بذریعہ رجسٹری کے اندر میعاد نوٹس ہم اپنا ٹالٹ مقرر کرنے میں قاصر رہینگے تو کہنی کو اختیار ہوگا کہ وہ ممبران دی لاهور گرین مرچنٹس ایسوسی ایشن میں سے ہمارا ٹالٹ بھی مقرر کر دے، کاروائی ٹالٹی کا خرچ اس کے

ذمہ ہوگا جس کے خلاف فیصلہ صادر ہو، خرچ کا تصفیہ بھی خود ثالثان کریں گے۔

(۱۶) اگر ہمارا کوئی تنازعہ کمپنی کے کسی دلال کے ساتھ ہوگا، تو کمپنی کو اختیار ہوگا، کہ ایسے تنازعہ کو اپنے کسی بیوپاری کے پاس براے فیصلہ بھیج دے، وہ فیصلہ بھی ہمیں ہر طرح سے منظور ہوگا۔

(۱۷) کسی بھی تنازعہ کی صورت میں کمپنی ہذا کو یا اس کے نامزد کردہ ثالث یا ثالثان کو تا فیصلہ حسب ضرورت ہمارے زر ڈیپازٹ یا منافع وغیرہ روکنے کا پورا اختیار ہوگا۔

(۱۸) ان شرائط کے علاوہ دیگر شرائط جو پہلے پاس ہو چکی ہوں یا تبدیل ہو چکی ہوں یا کی جائیں، وہ سب بھی ہم کو منظور ہوں گی، اور جو ہدایات پہلے جاری ہو چکی ہوں، یا کی جائیں گی، وہ بھی ہمیں منظور ہوں گی۔

CHAPTER VIII

TYPES OF PRODUCTIVE ORGANISATION

Agricultural systems vary from country to country, and in India from province to province, but everywhere there are peasant-owners and tenants, and everywhere some tenants pay rent in cash and others in kind.

1. PEASANT PROPRIETORSHIP

The predominant feature of Punjab agriculture is cultivating ownership of land. The peasant-proprietor is the backbone of our rural economy. This class also supplies the greatest number of recruits to the army and the police.

There is the strongest contrast between the rural organisation of the Punjab and that, for example, of the United Provinces of Bihar and Orissa. The following figures are for males alone.

Census of 1931

	<i>Cultivating owners.</i>	<i>Tenant cultivators.</i>
Punjab	... 1,707,000	1,128,000
U. P.	... 1,091,000	8,433,000
Bihar & Orissa	... 291,000	6,129,000

In the United Provinces tenant cultivators outnumber cultivating owners in the proportion of over 7 : 1; in Bihar and Orissa over 20 : 1; in the Punjab cultivating owners outnumber tenant-cultivators.

Cultivating proprietorship is a very old Indian system of agriculture.

As regards pre-Moghul times, Moreland finds no evidence to show that rent-paying tenants existed in the fourteenth century.¹ Tenants may have existed under Akbar

¹ *The Agrarian System of Moslem India*, p. 64.

and his successors, but all our evidence points' to the conclusion that, if they existed at all, they were unimportant as a class. The *Ain-i-Akbari* contains no regulations about them, and it recognizes no intermediaries between the tiller of the soil and the State. Akbar dealt directly with the cultivator—this is clearly shown by the instructions to the Revenue Collector. He was to "deal with each husbandman, present his demand, and separately and civilly receive his dues"; he was to "stipulate that the husbandman bring his rents himself at definite periods so that the malpractices of low intermediaries may be avoided."

Further, both under Akbar and Jehangir there was no lack of good cultivable land.

There is a reference to the system of cultivation in the accounts of India in the first half of the seventeenth century by two Dutch factors, W. G. De Jongh and Van Twist. De Jongh served as head-factor at Burhanpur and Broach from 1623 to 1632, and in 1636 he returned to India as assistant director of the Dutch factory at Surat. He wrote a detailed account of the trade at Ahmedabad and other towns on the West coast in 1628 or 1629, which was published in Holland three centuries later. De Jongh says:

"Land is divided among cultivators in the following manner: Anyone wishing to sow land goes to the headman of the village, called Mockedons [*Muqaddam*] in their language, and asks permission to cultivate as much land as he wishes to sow and in such place as is convenient to him, which permission is seldom refused, and almost always granted. Since, of the cultivable land, not one-tenth is sown, everyone can get as much land as he wants and [land] of his choice, and he may sow as much as he can cultivate."¹

According to De Jongh, the State claimed three-fourths of the gross produce as its share in Ahmedabad. Van Twist mentions "one-half and sometimes three-fourths" as the King's share in Gujrat, and adds: "For fields and pasture-land, where their cattle graze, they pay little or nothing; a thousand times more land lies untilled as com-

¹De Remonstrantie, Van W. G. De Jongh, p. 40, The Hague, 1929.

pared with that which is tilled."²

These writers should not be interpreted literally, but two things are clear. The State's share in Gujrat may have been one-half or a little more or less, but it was considerable; and second, there was no lack of good cultivable land.

It is obvious that when a cultivator has to pay heavy Government dues, and when he has access to any amount of good land, he would not care to cultivate for another. We may, therefore, assume that in the sixteenth and seventeenth centuries the normal agriculturist in Northern India was the actual tiller of the soil, not the non-cultivating owner.

The Incentive to work.—Where no intermediaries exist between the tiller of the soil and the State, the produce of the soil is shared between two parties only—the State and the cultivator. After the payment of the land taxes the whole produce of the cultivator's labour belongs to him. The peasant-proprietor has a greater incentive to work than the tenant. The tenant has to share his produce with the landlord, and the share claimed by the landlord in the Punjab is much greater than the share claimed by the State as land revenue. If, by working harder, the tenant adds 100 maunds to the gross produce of the land, and if half of the extra produce goes to the landlord, the incentive to work harder or to improve his cultivation is diminished in the same proportion.

Sub-Division of Holdings.—While peasant-proprietorship is to be preferred to landlordism, as the worker under the former system earns a greater reward for his toil, it is not an ideal system under such conditions as prevail in India. The population is increasing rapidly while the area under cultivation is practically stationary. As population increases the amount of land per cultivating owner must grow smaller. In Bihar and Orissa, Assam and the United Provinces the average area of the holding in 1928 was less than 4 acres, and in Bengal less than 3 acres. The area of the holding in that year was 5·8 acres in Madras, 9 acres in the Punjab, 12·4 acres in Bombay and 13·2 acres in C. P. and Berar (see the *Report of the Indian Agricultural Commission*), but since

²*Generale Beschrijvinghe Van Indien*, 1638, p. 63.

1928 the agricultural population in every province has increased considerably, which has reduced the area of the holding everywhere. If the eldest son alone inherited his father's estate, the size of the holding would not decrease from generation to generation. But we have no law of primogeniture. Under our laws of inheritance, each son inherits an equal portion of ancestral property. Suppose a farmer A owns 2 squares of land in the Lyallpur District, and has four sons. The income from two squares (about 56 acres) is sufficient to maintain the family in comfort. But on A's death the two squares will be divided into four equal parts, each of the sons, B, C, D and E getting 14 acres, or half a square each. If each of the four sons has two sons each, on their death their male descendants would be cultivating 7 acres each. The continued subdivision of land continually reduces the amount of land per owner-cultivator.

Fragmentation.—Further, each son must inherit an equal amount of the same quality of land. If, of two squares of land, one is of superior and the other of inferior quality, each son will have an equal share in the superior as well as the inferior land. The claims of justice are thus satisfied, but with disastrous consequences to cultivation. The holdings become scattered, and their effective cultivation becomes impossible.

While the peasant-proprietor has the greatest incentive to improve his cultivation, his ability to do so is limited by his means. Indian agriculture is not carried on as an industry, or for profit; it is a mode of living, and a precarious mode of living.

2. THE BATAI SYSTEM

When a cultivator does not own land, he has to take it on rent from a landlord. The rent may be paid in cash or kind. In the Punjab the predominant form of rent payment is *batai*, or a share of the gross produce. *Batai* corresponds to the *metayer* system in Europe. In Germany the *batai* system is called *Teil-bau* (*bauen*, to cultivate, *bauer*, peasant, *teil*, a part or portion), and the *batai* farmer *Teil-bauer*, for

he has to hand over a portion of his produce to the landlord.

The terms of *batai* vary from district to district, and according as land is irrigated or unirrigated, and irrigated by wells or canals. In the Lyallpur District the general custom is that the landlord pays half the cost of menials, sometimes part of the cost of seed or implements, half the land revenue and half the water-rate. Other expenses of cultivation are borne by the tenant. The rent amounts to half the share of gross produce. An example is given below :—

Area of the Farm, 27·31 acres

Income and Expenditure, 1935-36

		Gross income	Expenditure	Net income
		Rs.	Rs.	Rs.
Landlord	...	757·04	198·56	558·48
Tenant	...	764·53	384·04	380·49
Total	...	1521·27	582·60	938·97

Analysis of Expenditure

	Total	Landlord	Tenant
	Rs.	Rs.	Rs.
Upkeep of bullocks	149·24	...	149·24
Labour (hired) ...	3·34	0·54	2·80
Harvesting ...	38·44	19·22	19·22
Winnowing ...	21·30	10·65	10·65
Seed ...	57·62	14·42	43·20
Artisans ...	11·01	5·51	5·50
Implements ...	22·45	8·62	13·83
Water-rates ...	114·50	57·25	57·25
Land Revenue ...	164·70	82·35	82·35
Total	582·60	198·56	384·04

The major portion of the cost of seed, and the whole cost of the upkeep of bullocks was borne by the tenant. The net income from the land was shared between the landlord and the tenant in the proportion of 60:40. It is also seen that the landlord's share was more than three times greater than the total land revenue.

There were three working members of the tenant's family. The total net income of the tenant being Rs. 380·49 for the whole year, wage per worker was Rs. 126·83, or each worker earned a little more than Rs. 10 per month. This is not unsatisfactory, but when prices of agricultural produce are low, the tenant, so far from earning anything, may actually suffer a loss on the year's cultivation.

For example, in 1930-31 the net income of the tenant of this farm was *minus* Rs. 163-8-10.

Income and Expenditure

		Gross income	Expenditure	Net income
		Rs. a. p.	Rs. a. p.	Rs. a. p.
Landlord	...	488 2 1	190 4 8	297 13 5
Tenant	...	488 2 1	657 10 11	-163 8 10
Total	...	976 4 2	841 15 7	134 4 7

The total net income of the farm was Rs. 134-4-7, but landlord's net income amounted to Rs. 297-13-5; the tenant thus paid the hire of the land out of his wages.

If an average is taken of good, bad and indifferent years, the landlord's share in the net income of the land is found to exceed 80 per cent.

Punjabi and English Landlords.—The tenant works under conditions which cannot be described as satisfactory.

Contrasting the conditions in England and the Punjab Mr. Calvert says:—

“An English landlord is his tenant's best friend and spends fully one-third of his rental upon the land and its needs; most Punjabi landlords levy double the rent an

English landlord would do and spend practically nothing back on the land; indeed, if consideration be paid to all that an English landlord provides in the way of buildings and equipment, then his rent is but a fraction of that found general in India."³

Again :

"In the Punjab the larger landlord is a rent-receiver pure and simple and spends little or nothing on the land, so that his right to an automatic increase of rent on account of good seasons, higher prices or better cultivation is not clear."⁴

Under *batai* the money value of the share of the produce claimed by the landlord automatically increases or decreases with the rise or fall of prices.

The bulk of tenants in the Punjab are tenants-at-will, and tenancy runs from year to year. At the end of the year any tenant may be got rid of. An occupancy tenant cannot be ejected from his holding for non-payment of rent or for any other reason except that he has rendered the land unfit for cultivation, and he enjoys many other rights. In recent years action has been taken in the United Provinces and Bihar to improve the conditions of tenancy.

3. THE LEASE-HOLD SYSTEM

The lease-holder pays the agreed rent in cash. If the amount of the rent is moderate, the period of the lease sufficiently long and arrangements have been made for compensation for unexhausted improvements at the end of the lease, the lease-hold system works well in practice. But where land is getting more and more scarce on account of the growth of numbers, and there are no alternative means of livelihood for the agricultural population, cash rents have a tendency to increase, and become a tax on the wages of the worker. That is so not only in the Punjab in India but everywhere else in the world. The capitalist cannot compete with the peasant in cultivation. If a capitalist were

³ *Wealth and Welfare of the Punjab*, p. 191.

⁴ *Ibid.*, pp. 198-99.

taking land on rent, he would not offer more for the use of the land than the true economic rent of land—which is a surplus above cost of cultivation. But a peasant will take land even when, in addition to the rent of land and interest on capital, he has to sacrifice a part of his wages.⁵ Why does he do so? Why do tenants cultivate land on such unfavourable terms as they do? The answer has already been given. If peasants could find more remunerative employment in towns, both cash and *batai* rents would fall.

4. INDUSTRY

We already know some forms of industrial enterprise—private businesses, partnerships and companies. Attention may be drawn here to the tendency towards concentration in industry and the forms it takes.

Karl Marx predicted the growth of large corporations with the progress of capitalism. His prediction has been fulfilled.

It has been calculated that 200 largest corporations in the United States control 50 per cent of the total corporate wealth of the country and 80 per cent of the assets traded in the New York Stock Exchange. These 200 corporations are controlled by about 2,000 directors, not all of whom are active. In effect a few hundred or few thousand individuals control about half the corporate wealth of the United States.⁶

Corporate wealth means the assets of joint-stock companies. The company or corporate form of enterprise dominates the industrial field and to a lesser extent trade (40 per cent); only 4 per cent of American agriculture is controlled by companies. Of the total wealth of the United States, industrial as well as agricultural, 22 per cent is controlled by 200 largest corporations. Even this figure is significant.

Causes of Concentration.—Why is there a tendency towards concentration in production and control in modern industry?

⁵ *Wirtschafts theorie der Gegenwart*, Vol. 4, p. 349.

⁶ E. F. M. Durbin in *Politics of Democratic Socialism*, p. 123.

Let us take an Indian example. During the Great War only 3 Indian cement factories were working in India, and the great bulk of their output was purchased by the Government. Government control ended in the middle of 1919 and the companies were able to sell their product at very remunerative prices in the open market. The result was the foundation of more companies, increase of production, and cut throat competition among the companies. Between 1920 and 1925 Indian production of cement increased from 91,000 tons to 361,000 tons. Prices fell for a time even below cost of production. When this happens an attempt is made to control output and prices by agreement between producers. A cartel thus comes into existence.

Cartels and Trusts.—A cartel is a loose form of combination with limited aims. The combining firms retain their individuality, but agree to restrict production, or not to sell below a fixed price, or divide markets. Very often a central sales organisation is created, and the output of all the combining companies is handed over to this organisation to be sold.

The Indian Cement Manufacturers' Association was formed in 1926, and shortly after this the Concrete Association of India. In 1930 the Cement Marketing Company of India Ltd. was established to control the output of Indian factories on a quota basis, and to save waste on account of excessive railway freights by a rational distribution of orders. A merger was effected in 1936, and since that date the cement industry has been working more or less as a single organisation.

When a merger is formed, the individual companies cease to exist; a single company takes their place. In America a merger is also known as a Trust. The trust may shut down companies with old and antiquated plants, and extend the output of others. The total output of all working companies, which are under a single direction, is sold by the trust through its selling organisation. Competition ends, and a monopoly, or semi-monopoly created. Instead of cutting one another's throat, the combined producers have the opportunity of cutting the throats of the public.

Protection.—Protection is known as the 'mother-of-trusts'.

Protection created the Indian sugar industry. If protection were withdrawn, Indian sugar companies would disappear as suddenly as they appeared. Mr. M. P. Gandhi, Secretary of the Indian Sugar Mills' Association, sometime ago wrote : "Indian sugar can easily sell at about Rs. 9-12 per maund at Calcutta in competition with Java sugar which sells at Rs. 10-4 per maund. But actually it sells at about Rs. 8-8 at Calcutta, and thus unnecessarily wastes a considerable amount of protection."

How can this 'waste of protection' be avoided? Naturally by charging the maximum price which market conditions permit.' When a monopoly with a unified selling organisation is created, no protection is wasted. The consumer, evidently, counts for nothing.

A more important reason for the growth of monopolistic combinations is the realisation of economies of large-scale production, which we shall discuss in another place. Generally production on a large scale reduces cost of production per unit, and increases profit.

International Cartels.—A national cartel attempts to control output and prices within a country. The whole world, or a great part of it, is the field of activities of international cartels.

International restrictive schemes played an important rôle in recovery from the Great Depression. The 'most immediate practical by-product' of the World Economic Conference of 1935 was the determination to restrict the supply of primary products. Special attention was given to rubber, wheat and tin, but other products were not forgotten. By 1935 international restrictive schemes were actually or nominally in force for wheat, nitrates, rubber, sugar, tea, tin, copper, diamonds and potash.

In 1936 the European Steel Cartel controlled 45 per cent, of the world's output of steel; in 1932 the Copper Cartel controlled 90 per cent of world copper, the Tin Cartel 83 per cent of world tin and the Potassium Syndicate 91 per cent of world potassium; in 1936 the Rubber Producers' Convention controlled 97 per cent of the world's

¹ *Single Sugar-selling Organisation*, by M. P. Gandhi, p. 15.

output of rubber.

The Holding Company.—The Holding Company is a company which may or may not carry on business, but which controls two or more companies in virtue of holding the majority of their shares. The control of a joint-stock company vests in its shareholders. If a third company buys a majority of shares of two or more companies it can direct their policy. The controlled companies are known as subsidiaries.

When a company acquires a financial interest in other companies an inter-locking of capital is the result. In Germany banks frequently buy shares of industrial companies which they finance. On the 1st of January 1932, the total number of industrial companies in Germany was 5,443 and they had a total capital of 13,680 million marks. Companies whose share capital was owned by other companies numbered 1103, with a share capital of 6,772 million marks. Of this capital 3,253 million marks was in the hands of other companies, of which 1,273 million marks of share capital was held by banks. The direct association of banks with industries is a source of considerable financial strength to industries.

5. MONOPOLIES

When a combination controls the greater part of the output of a commodity so that it can determine price, it has become a monopoly.

To control price it is not necessary that a combination should produce the entire output. If it controls 75 per cent of the output, it will control price.

Monopolies are natural, social, legal, and voluntary.

Voluntary monopolies result from voluntary agreements, e.g., trusts and cartels. Again, a powerful company may establish a monopoly by destroying its rivals or by buying them out. Very often unfair means are adopted by a company to ruin its rivals or to make it impossible for them to sell. Prices are kept low so long as there is competition; they are raised as soon as competition ends.

There is a natural monopoly when nature has limited

the sources of supply. Indian gold production is controlled by one company because there is only one important centre of gold mining in India—the Kolar gold-fields in Mysore.

Legal monopolies are those created by law. The author's copyright and the inventor's patent rights are legal monopolies.

▲ Social monopolies are so-called because competition in certain branches of production would cause waste of social resources and energy, and a monopoly is the most suitable form of enterprise. A social monopoly may be operated by the government or an organisation supported by it. In all countries the Post Office is a government monopoly. All letters and parcels for a street can be delivered by postmen working under a single organisation. The whole of a town can be provided with electricity by a single company. If competition were introduced in the supply of electrical energy, a town would be covered over by electrical wires belonging to a dozen or more companies, all working on a small scale and at high cost. In the end no company would pay. Similarly no one wants half a dozen competing railway companies between two small places, e.g., Jammu and Sialkot. There would not be enough traffic for all. For reasons of economy and purity of supply, drinking water in a town is provided by the town municipality. The laying down of water pipes by a number of competing companies in each street would be a social waste.

Monopsony.—A consumer's monopoly is called monopsony. Consumers' monopolies are rare. But if a particular firm or a combination of firms is the sole consumer of a particular kind of labour, the firm or combination is a monopsonist. If these labourers have no other market for their labour, the monopsonist may pay them the lowest wages. In most cases this is improbable. Irrigation engineers are solely employed by Government, but they would refuse to work for Government on five rupees a month. Failing to find employment under Government on satisfactory terms, they will do something else. An irrigation engineer can easily divert his talents to another related branch of engineering. A radio engineer

may seek employment as an electrical engineer.

You become a monopsonist when you order note-paper printed from a die cast for you. This note-paper is of no use to anyone else.

6. CO-OPERATIVE FORMS

Robert Owen was the originator of co-operation. He established the first co-operative community in 1799 at New Lanark in Scotland. Other self-supporting communities arose, but they did not meet with much success and finally the New Lanark Society also disintegrated owing to religious dissensions. But, later, the co-operative idea was taken up by the Rochdale Pioneers. The Pioneers were 28 poverty-stricken weavers of Rochdale. The gigantic co-operative movement in Britain to-day owes its inspiration to the initiative of these poor and humble men.

Co-operation has achieved its greatest success in the form of consumers' societies. The fundamental principles of consumers' co-operation are simple. The co-operative society buys goods at wholesale prices, sells them to its members at market prices and divides the surplus, after allowing a fixed payment for capital, as a discount on purchases. The larger the purchases made by a member from the society during the year, the greater would be his share in the surplus in the form of discount on purchases. He gets this discount only at the end of the year, not when he makes the purchases, for goods are sold at market prices.

The object of consumers' co-operative societies is to eliminate middleman's profits.

Such societies can be easily formed by resident students of a college for the purchase of food-stuffs, stationery, books, and many other articles. The quality of provisions will be better and in the end prices to the members lower.

A limit is placed on the number of shares which an individual member may own. Generally there is a membership fee. Each member, irrespective of the shares he holds, is entitled to one vote in the society.

There are 5,000,000 members of consumers' societies in England. Assuming that each member is a house-holder

jointly. This is one type of society operating on a small scale. In another type the area of operation is wider, and members may be individuals or societies. These grow cotton of improved varieties, buying seed partly from the Agricultural Department, and partly from the members of the society. The society sells the produce. If the market price is low, a member may store his produce in the Society's godown and obtain an advance upon it.

Perhaps co-operative farming will provide the means of modernising Indian agriculture, so far as that may be possible under Indian conditions. The cost of upkeep of bullocks is high. Tractor cultivation may be cheaper. Experiments alone can show how far machinery can be profitably substituted for bullock labour. But machinery can be used only on large farms, where there is enough work for machinery. Since the initial cost is high, no small farmer can use machines. But a number of small farmers by combining, and with the assistance of the State, may be able to use modern implements which no one of them can afford to use by himself. Co-operative farming may thus enable even small farmers to realise the economies of large-scale production in agriculture.

Co-operative Credit Societies. In India co-operative credit societies are far more numerous than non-credit societies.

Co-operative credit societies are both urban and rural. The founder of rural co-operative credit was Raiffeisen who took the lead in establishing such societies in certain districts in Germany. Rural co-operative credit societies are known as Raiffeisen banks. Schulze-Delitzsch organised similar societies in urban districts in Germany.

The co-operative credit movement began in India in 1904. We have space here only to note the general principles of rural co-operative credit.

The number of members of a primary agricultural co-operative credit society is generally not less than ten. These are small men. They combine as, individually, they are not able to obtain credit for their needs on reasonable terms. By combining they pool their credit; each becomes liable for the debts of the society to the extent of the whole of his assets. All their assets, if actually sold, might be in-

sufficient to meet the obligations of the society—the creditors' real security, therefore, consists not in the material assets of the members but in the ability of the members to use the credit obtained for productive purposes, and to repay the loan out of the profits made thereby.

The object of co-operative credit is a moral one, not cheap money-lending. It aims at developing habits of thrift among peasants.

Co-operative credit societies should satisfy the following general conditions :—

1. Every member of a co-operative credit society should have a knowledge of the principles of co-operation. Co-operation should be real, not a sham.

2. Members should be carefully selected. They should be honest men, who can be trusted to keep their word.

3. Loans should be made to members only and in no circumstances should they be given for speculative purposes.

4. As a rule loans should be given for productive purposes only. The borrowers should be required to satisfy the society that they are in a position to repay the loans from the income they will derive from their increased productive capacity, due to the loan.

5. If a loan is improperly used it should be immediately recalled.

6. Personal sureties should be taken in case of each loan. This adds the special supervision of individual members to the general supervision of the society.

7. The constitution of the society should be republican, and office-bearers should work gratuitously.

CHAPTER IX

ECONOMIES OF LARGE-SCALE PRODUCTION

Machine competition has led to the destruction of many cottage industries in India. This is because machine-made goods are cheaper, though not in every case superior to hand-made goods. Factory production is mass production, and enjoys economies of production peculiar to it.

But division of labour in the production of even hand-made goods permits of the realisation of certain economies of production. When a number of workmen work together, instead of each independently, division of labour becomes possible and production increases.

The classical example of this is pin-making.¹

¹ "One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on, is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them in the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them. I have seen a small manufactory of this kind where ten men only were employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins in a day. There are in a pound upwards of four thousand pins of middling size. Those ten persons, therefore, could make among them upwards of forty-eight thousand pins in a day. Each person, therefore, making a tenth part of forty-eight thousand pins might be considered as making four thousand eight hundred pins in a day. But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they certainly could not each of them have made twenty, perhaps not one pin in a day; that is, certainly not the two hundred and fortieth, perhaps not the four thousandth part of what

Pins were made by hand in Adam Smith's time. At the beginning of the present century results were achieved in pin-making which reduced Adam Smith's illustration to insignificance—1,000 persons sufficed to turn out on an average 25 tons of pins per week. It has been estimated that in Adam Smith's time not less than 4,200 persons were required for the production of about one-seventh of that quantity.

1. MACHINERY

India is only half-reconciled to machinery and some of our leaders not at all. Mahatma Gandhi is looking forward to a time, when, given the will of the nation, the *charkha* would be living and the last cotton mill will have closed down. That may happen, given the will of the nation; so far the nation does not seem to have exercised its will with sufficient determination for the realisation of that aim. The number of cotton mills has not decreased, but increased from 255 in 1914-15 to 348 in 1936-37, and the output of cloth increased from 111 crore yards, pre-war average (1909-10 to 1913-14), to 401 crore yards in 1939-40. Mahatma Gandhi's thirteen-fold constructive programme is not based on large-scale production. In his ideal civilisation there would be no motor-cars, no railways, and no mills. Speed, according to him, is not the end of life. 'Man sees more and lives more truly by walking to his duty.'

There is nothing in speed as an end in itself. But soldiers who started walking to the field of battle in a modern war, might never reach their destination, or arrive there long after the war was over.

Mahatma Gandhi's economics is influenced by his creed of *ahimsa*, or non-violence.

The use of machinery under uncontrolled capitalism gives rise to many evils. There is unemployment, exploitation and suffering. But these evils are avoidable.

Marx's collaborator Friedrich Engels has described the

they are at present capable of performing, in consequence of a proper division and combination of their different operations." Adam Smith in *Wealth of Nations*, Book I, Chapter 1).

condition of the British working classes about a hundred years ago.. The genesis of the *Communist Manifesto* is to be found in the misery and starvation of the British worker in the middle of the 19th century. Hours of work were long and wages low. During Engels' residence in England at least 20 or 30 persons, according to Engels, died of simple starvation under the most revolting circumstances. The housing conditions were indescribably wretched; in regard to dress, the working class was 'scarcely ever in a position to use a thread of woollen clothing'; as for food, the worker got 'what was too bad for the property-holding class'. "The potatoes which the workers buy are usually poor, the vegetables wilted, the cheese old and of poor quality, the bacon rancid, the meat lean, tough, taken from old, often diseased cattle, or such as have died a natural death, and not fresh, even then, often half decayed." Adulteration was commonly practised and the worst sufferers were the labouring classes. "The rich are less deceived because they can pay the high prices of the large shops which have a reputation to lose....."

That is not how the British worker lives to-day. Similarly, the conditions of work in Indian mills before 1880 were incredibly bad,² and there is considerable scope for improve-

*The following is an extract from the evidence of Mr. Wadia, a mill-owner, before the Bombay Factory Commission of 1885:

"In ordinary seasons, that is, when work is not very pressing, the engine starts between 4 and 5 A.M. and stops at 7, 8, or 9 P.M., without any stoppage during the day. The hands work continuously all these hours, and are relieved by one another for meals. In busy seasons, that is, in March and April, the gins and presses sometimes work both night and day, with half an hour's rest in the evening. The same set continue working day and night for about eight days. When the hands have been working day and night for eight days, and it is impossible to go on longer, other sets of hands are procured from Bombay if they can be found. In this case the work is distributed between the old and new sets of workers, half working all night and half working all day. More women are employed in gins than in presses. Both the men and women come to the factories at 3 A.M., as they have no idea of the time and they wish to make sure that they are at the factory by the time it opens, i.e., 4. A.M. I have 40 gins in one of my factories at Pachora, and I have only 40 women attending these 40 gins. I have only eight spare women. I never allow these women off the gins. I am not alone in this respect; it is the general

ment in these conditions even at the present time.

Our point is that exploitation of labour, over-crowding in towns, deterioration in the health and strength of the population, unemployment, and trade fluctuations under capitalism are not a necessary, unavoidable consequence of machinery but of the form of economy. In a different economy these evils might be considerably mitigated, or almost wholly disappear. It is wrong to blame machinery for the faults of the system.

2. ADVANTAGES OF MACHINERY

A machine can exactly repeat its movements, which no human being can do. A machine works faster than any human being. Machinery enables us to harness the forces of nature in our service, e.g., the production of electrical energy by the utilisation of the waters of the river Uhl in the Mandi Hydro-Electric Scheme. It is by the use of machines that distance has been annihilated, and life made more pleasant in a thousand ways. Ice was a luxury of the rich fifty years ago; now the poorest may enjoy a cool drink in the burning summer months. By turning the knob of a radio set one may listen to the best music being played thousands of miles away or to news which decide the fate of millions.

system. There is no change of hands except at meal times. The hands that work from 4 A.M. till 10 P.M. are paid from three to four annas per day. All factories pay at this rate; sometimes we pay our hands 6 pies as a bonus. There is no work in the district in which these poor women can get employment. These women come from Satara and Khandesh, and are of Maratha class. We work these long hours from 15th November till the 31st of May, but only about ten days in each month. Sometimes we work day and night for two months, but in this case we employ two sets of labourers. We employ no children. When the wages are so low for the adult there is no advantage in employing children. I certainly would recommend that legislation should be extended to these factories. I am personally largely interested in this matter being a proprietor, secretary, and treasurer. I should like to have these ginning factories worked only twelve hours a day.....

"When we see that the hands are absolutely tired out we are obliged to get others from Bombay. The hands who work these long hours do frequently die."

"Ah!" the reader will exclaim, "but you are forgetting unemployment, the destruction of cottage industries, the increase in the pressure of population on the soil. India prospered in the past without machines. Why should she not prosper again under the old conditions?"

But the old conditions belong to the past. The world has not stood still during the past 300 years. And we must move with the world or be destroyed.

What would you say to fighting with *lathis* an enemy equipped with all the modern accoutrements of war? Would that be sense? One may not fight at all. This is another matter. Poland possessed a magnificent cavalry. What chance has cavalry of beating back an attack of armoured tanks?

We have no choice in the matter. If other countries are modernising their industries, we are compelled to do so—unless we prefer to live as an entirely closed community, with a high Chinese wall around us.

Machinery creates unemployment, particularly under existing conditions in India. We do not manufacture machinery. Our industrialisation has been proceeding on wrong lines. We are concentrating attention on the production of sugar, cloth, matches, and other consumers' goods, neglecting almost completely the manufacture of capital goods. Under these conditions the introduction of machinery creates unemployment in India and employment in countries which manufacture machines.

If all machines were made in India, if the flow of investment were controlled by Government, if production were according to plan, there would be no unemployment on account of the use of machinery. When machinery is first introduced, hand-workers lose employment, and some of them may lose it permanently. But machine-made goods are cheaper. Demand for them would increase and the expansion of the industry or industries concerned would create a demand for labour. If consumers do not buy more of these goods, they would buy more of other goods, for their real income would increase on account of the cheapening of machine-made goods. Further, machine-making would absorb many of those thrown out of work. In some cases

machinery creates far more employment than unemployment, e.g., the railway. The printing press in the beginning reduced the demand for copyists. In the old days copying manuscripts for sale provided a living to many people. The printing press, by multiplying books cheaply, robbed them of their livelihood, but it has been the means of a vast extension of education, and it has created a demand for a host of authors, composers, printers and others concerned in book-production. If railways disappeared, demand for carts and other means of conveyance would increase, but trade would shrink and more unemployment than employment would result.

2. SPECIALISATION OF LABOUR AND MACHINERY

Long ago Adam Smith noted that division of labour was limited by the extent of the market. The wider the market, the greater is the scope for production on a large scale and for specialisation of labour as well as machinery.

The village shopkeeper is a general merchant who sells all kinds of things—seed for crops provisions, cloth, kerosine oil, and also *mithai*. In a small place a practising physician also dispenses his own medicines and, in addition, may manufacture not only drugs, but aerated waters. Would anyone in Lahore care to buy cloth from a cloth dealer who also manufactured sweetmeats? Would anyone in Lahore consult a physician with much confidence who did a hundred other things besides treating patients?

In a town demand is large enough to enable dealers to make a living by selling cloth only, or *mithai* only, or hardware only. They are able to specialise owing to the extent of the market. The same is true of manufacturers. A sports goods firm may, in the beginning, manufacture all kinds of sports goods—tennis material, cricket material, footballs, shuttle-cocks, indoor games and a hundred other things. But if demand for sports goods increased, new firms will specialise.

Specialisation by Product and by Process.—Specialisation is of two kinds, by product and by process. A cloth mill may

be producing twill, muslin, long-cloth and cloth for coatings. There is specialisation by product if it restricts the range of its products. A sports goods firm may limit itself to the production of cricket goods alone, or it may produce cricket bats, or cricket balls alone.

Spinning and weaving are two different processes. A weaving mill may also carry on spinning. When it spins, or produces yarn alone, or buys its yarn and confines itself to the production of cloth, *i.e.*, weaving alone, there is specialisation by process.

Greater division of labour, or specialisation of labour and machinery is, in itself, an important cause of greater and cheaper production. We have about 350 cotton mills in India. Suppose their number doubled. Can any one imagine that the duplication of cotton mills will lead to no specialisation by product and by process? If a spinning and weaving mill confines itself to spinning alone, its scale of production increases and it is able to realise the economies of large-scale production.

3. INTERNAL AND EXTERNAL ECONOMIES

The economies which are realised when a particular business expands, and which are thus peculiar to it, are known as internal economies.

We have seen that specialisation increases efficiency. This is true of labour as well as machinery. A large firm will buy and sell on a large scale, which is more economical than small buying and selling. A large firm can afford to spend more on advertising or creating demand. It can afford to employ experts for research. A large firm does not waste its by-products, but turns them to a profitable use (*e.g.*, the Jallo Resin and Turpentine Factory near Lahore). Then a large firm spreads its taxes and other fixed charges, as insurance, on a large turn-over, which reduces their burden per unit of output.

While internal economies are peculiar to a business or firm which is expanding, external economies are shared by all firms in an industry. External economies are realised when an industry as a whole expands. Suppose the demand

for cotton goods increases and the cotton mill industry as a whole expands. We have already noted one very probable result of this expansion, specialisation by product and specialisation by process. All firms in the industry will benefit by this specialisation. If the demand for factory-made boots and shoes considerably increased, there would be specialisation among the factories, some confining themselves to tennis shoes, others making ladies' shoes a speciality, still others specialising in men's or children's footwear. Further, the demand for tanned leather would increase. Tanning is a subsidiary industry. To meet a larger demand tanning would be better organised than before, and all firms in the leather-goods industry would benefit from the improvement of tanning. In addition, facilities for marketing and carriage may be expected to improve.

An important factor in determining the expansion of an industry as a whole and the extent to which specialisation can be carried, is transportation. Very often the finished products of one firm are used as raw materials by another. The cheaper and better the means of transportation, the greater the area over which an industry may spread, and greater the extent of specialisation by process that is rendered possible.

4. LOCALISATION OF INDUSTRIES

The rise of subsidiary industries sometimes explains why an industry remains localised in a particular region even when other reasons for localisation may have ceased to operate. Sialkot can import woods conveniently from Kashmir, but it has become the home of many industries subsidiary to the main sports goods industry. It also enjoys the advantage of a plentiful supply of trained labour.

Another cause of localisation of industries is physical conditions. Where there is no coal or gold, coal or gold mining cannot be carried on. Jute manufacture is largely restricted to Bengal, because this province produces the largest amount of jute. There is salt mining in the Punjab, because of the Punjab salt mines.

Delhi, the old Moghul capital of India, is the centre of several artistic industries. These industries flourished in old times because of the patronage of the royal Court. There is still a demand for their products. Delhi is visited by foreign tourists and, as the seat of the Central Government, it attracts visitors from all parts of India and has a large official population.

Akbar encouraged the production of Kashmir shawls at Lahore as well as in Kashmir. Foreign carpet-weavers were encouraged to settle down at Agra and Fatehpur Sikri. In Europe the persecution of Flemings and Huguenots led them to transfer the field of their activities (wool-weaving) to England. Semi-political reasons thus sometimes lead to the localisation of industries in particular regions.

Export and import industries would gain by being near ports. In India distances are so enormous that manufacturing industries which were far removed from their sources of raw material would be at a considerable disadvantage in competition.

Very often industrial inertia explains why an industry persists in a particular place.

5. DIVERSIFICATION OF INDUSTRY

Recent developments have tended to reduce the advantages of localised industries.

Bombay has a humid climate which favours the localisation of cotton mills there. But artificial humidification makes it possible to manufacture cotton cloth in the hottest and driest parts of the Punjab.

If cheap power is obtainable from hydro-electric works, industrial development is no longer dependent on abundant supplies of coal in the neighbourhood. Electrical energy can be easily carried by wires anywhere. In the not distant future one may hope to see the countryside in the Frontier Province and the Punjab dotted with electrically worked plants.

Machinery and parts of machinery have been standardised. Standardisation of machinery makes it possible to set up plants anywhere, provided means of transportation are ade-

quate and skilled labour is available for repairs. The whole of a bicycle, for example, is made of standardised parts. One may break any part of a bicycle—it can be replaced without difficulty, and the new part is exactly like the old. Bicycles are in use in almost every Punjab village.

6. DISADVANTAGES OF SPECILISATION OF LABOUR AND MACHINERY

Division of labour increases efficiency and therefore output, improves the quality of work, effects a saving of time and encourages invention. The connection between division of labour and inventions was explained and illustrated by Adam Smith.³

Scientific inventions are made by specialists who have devoted their whole lives to research within a narrow, special field.

Extreme specialisation, however, is not unattended with serious disadvantages. The specialist knows only his own subject and very little else. He acquires a narrow outlook.

If a labourer is turning the handle of a machine for eight or ten hours daily, or thrusting steel rods into a semi-automatic machine which turns them into fine screws, he has little opportunity of exercising his intelligence. A hand-

³ "A great part of the machines made use of in those manufactures in which labour is most subdivided, were originally the inventions of common workmen, who, being each of them employed in some very simple operation, naturally turned their thoughts towards finding out easier and readier methods of performing it. Whoever has been much accustomed to visit such manufactures, must frequently have been shown very pretty machines, which were the inventions of such workmen, in order to facilitate and quicken their own particular part of the work. In the first fire-engines, a boy was constantly employed to open and shut alternately the communication between the boiler and the cylinder, according as the piston either ascended or descended. One of those boys, who loved to play with his companions, observed that, by tying a string from the handle of the valve which opened this communication to another part of the machine, the valve would open and shut without his assistance, and leave him at liberty to divert himself with his playfellows. One of the greatest improvements that has been made upon this machine, since it was first invented, was in this manner the discovery of a boy who wanted to save his own labour." (*Wealth of Nations*, Book I, Chapter 1.)

worker who has to perform many and varied operations will be, normally, a person of livelier imagination and understanding than a mechanical factory operative.

Recent progress is tending to make more and more factory jobs more and more mechanical. No long period of training is required to learn to press a knob, or feed semi-automatic machines.

These disadvantages of mass-production are real. The remedy lies in shortening the hours of work, and making adequate arrangements for the amusement and enlightenment of factory workers after the day's work is over.

7. LIMITS OF EXPANSION OF A FIRM

We have seen that the specialisation of men and machinery is limited by the extent of the market. An industry as a whole grows as the market expands. The Great War and, later, the protective tariff reduced the imports of cotton piece-goods into India and the production of cloth expanded rapidly. At present production is stable round about 400 crore yards.

Internal demand may be expected to increase in the coming years, but it would be a slow process. Further expansion would seem to depend on our ability to capture foreign markets.

Let us next take a particular firm. The growth of a particular firm is not necessarily dependent on the growth of demand as a whole. It may grow at the cost of its rivals.

Are there any limits to the expansion of a particular firm? As it expands, will it indefinitely realise the economies of large-scale production and thus indefinitely reduce its expenses of production? If that were so, a single firm would grow in size until its output met the entire demand. Each industry would be represented by a single firm; all other firms would disappear.

Take a college, which is not a firm in the proper sense of the term, for a college does not work for profit. The number of students on the rolls of a college may increase from 500 to 1,000, and even more. But if a college grew

beyond a certain limit, it would become unmanageable, and efficiency would suffer. Long before that stage was reached, it would be advisable to found a branch college, with an independent staff. The main institution and its branch may be controlled by the same managing committee.

Marginal Cost and Price.—As a firm gets bigger, it tends to become unmanageable. Large-scale production is attended with economies, but the realisation of these economies depends on the ability, enterprise and power of organisation of the entrepreneur. Up to a certain point the expansion of a business is profitable, and beyond that point unprofitable.

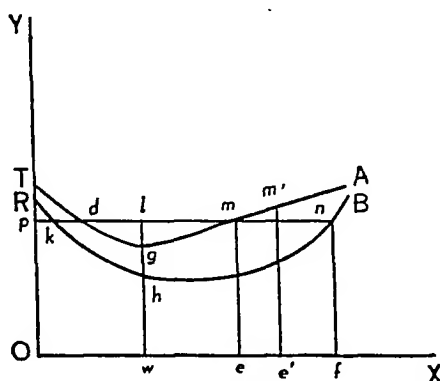


Fig. 30

The reader's attention is directed to figure 30 which illustrates the growth of two businesses, A and B. Output is measured along OX and cost along OY. The price at which the good is sold both by A and B is taken as given. It is equal to Op .

Let us first study the cost curve of A, TgA . The curve falls as the output expands. Marginal cost is shown by the vertical distances between the curve and OX. When the output is ow , marginal cost of A is wg , and of B, wh . B is a business managed with superior ability.

Marginal cost may be defined in the same way as marginal utility. Marginal utility is the addition made to total utility by incrementally increasing the consumption of a good. Marginal cost is the addition made to total cost by

incrementally enlarging a business. In the case of both A and B marginal cost is seen to fall up to a particular point, beyond which it steadily rises. This point need not be the same for different businesses.

At a particular point then, as A enlarges its output, marginal cost ceases to fall. Up to that point it was possible to reduce marginal cost by the realisation of economies of large-scale production. As the business grows beyond that point, the employer's attention becomes more and more diffused and marginal cost begins to rise.

What is the maximum output of A? It cannot exceed Oe . When the output is Oe , marginal cost is equal to price. If the output expanded beyond Oe , to Oe' , marginal cost Om' would be higher than price, Op .

The output of B can expand up to Of . When B's output is Of , nf , marginal cost is equal to price, Op .

It will be noted that output does not cease to grow as soon as marginal cost ceases to fall. So long as price is higher than marginal cost there is profit in producing more. Theoretically, then, the limit of expansion is reached only when marginal cost is equal to price. In practice it may be difficult, if not impossible, for producers so to enlarge their output as to make cost at the margin exactly equal to price.

Net profit of A is represented by the area dgm minus the area Tdp , and that of B by the area khn minus the area Rpk .

Marginal Return of a Business. Marginal cost is reckoned per unit of output. Suppose the unit of output in a cloth mill is a yard of cloth. For a given output, the marginal cost may be two annas a yard. Marginal return is measured with reference to a unit of money. Suppose our unit is one rupee. Then the marginal return is found by dividing the unit of money by the marginal expense. Per rupee the marginal return in our illustration is eight yards of cloth, marginal expense being two annas per yard.

8. FACTORS DETERMINING THE GROWTH OF A BUSINESS

It is clear from what has been said above that no business can continue to grow indefinitely. But some businesses attain a larger size than others.

The size of a business must depend, in the first place, on the capacity of the entrepreneur. A more capable entrepreneur would be able to efficiently control a bigger business than a less capable man, other things being equal.

The nature of the commodity and the method of production must be considered.

Where the method of production is comparatively simple, or the processes of production are not excessively complicated, the size of a business would be comparatively larger than where the work in the factory is highly intricate. But the present-day tendency is towards simplification and mechanisation of even the most complex jobs.

Finally, the market for the commodity must be studied. Is demand fairly constant or is it constantly changing? The steadier the demand the larger the potential size of a business. For articles of fashion demand is apt to change capriciously. The market thus needs constant attention, and such goods are not produced in large quantities as iron or steel, or bricks. The same is true of books. Popular works, for which demand is certain, may be issued in editions of tens of thousands of copies. But books which cater for special tastes have a limited sale, and an edition may be limited to 1,000 copies or even less.

9. THE LAW OF SUBSTITUTION IN BUSINESS

A consumer, we have seen, so spends a given income as to maximise the utility from his expenditure. He maximises the utility when the marginal utility of money spent on the various goods consumed is the same. If it is not, he would gain by spending less on one thing, say, the cinema, which he has been frequenting too often, and more on, say, milk, the consumption of which he was forced to restrict.

The same law governs the actions of a producer, the only difference is that the producer incurs expenditure on account of factors of production. He considers the return from each factor in relation to its cost, and substitutes one factor for another when he finds it profitable to do so.

You have taken a contract to build a road. You will employ hand-labour as well as machines, e.g., a steam-roller. You can vary the proportions in which men and machines are used. You will use more of the one and less of the other according as it is profitable to do so. At the margin the return from hand-power and machinery would be proportionate to the cost of each factor, or equal for a given unit of expenditure.

The return may be measured in terms of the road built. Suppose you make an extra use of the steam-roller and build a certain amount of road measured in feet or yards. If extra labour is employed, a larger return in terms of the road built will be obtained per unit of expenditure. In that case it would be profitable to substitute hand-labour for the steam-roller, until an additional unit of expenditure gave the same return in both cases.

Suppose you are producing pairs of shoes. An additional recurring expenditure of Rs. 100 on account of machines of one kind or another will add 30 pairs of shoes to your output. Working with the same machines, but more men, who will cost you Rs. 100 in wages, you will produce only 20 extra pairs of shoes. It is more profitable to borrow capital for setting up new machines than to engage more labour.

You will go on substituting machinery for labour until the return in pairs of shoes from a given unit of money, say Rs. 100, from machinery (capital) and labour becomes equal. So long as the marginal returns from labour and capital (addition made to the output by extra use of labour or capital) are unequal, you will gain by substituting one for the other.

The Law of Indifference.—There is competition not only between labour and capital, but between different forms of labour and different forms of capital. Under certain conditions an employer may gain by substituting the cheaper

labour of boys and women for adult male labour. The choice may lie between skilled and unskilled labour. Taking account of the conditions under which he is working and of his resources, an employer would use different kinds of labour up to a certain limit or margin. At the margin the efficiency of each kind of labour employed will be in proportion to the price paid for it. A higher price will be paid only if efficiency is greater. The margin of application of different kinds of labour-power, or of different agents of production, is a point where it is a matter of indifference whether extra expenditure is incurred in connection with one factor or another. For this reason, the Law of Substitution is also known as the Law of Indifference.

Let us, for a moment, go back to our consumer who is so spending a given income on consumers' goods as to maximise his total satisfaction. When he has reached a position of total maximum satisfaction, then he has so much of bread and potatoes, meat and milk, books and furniture that the marginal utility of each good (or service) is the same. If now his income increased by a very small amount, it would be a matter of indifference to him whether he spent the extra income on one good or service or another.

Similarly, if a producer has pushed the uses of each agent of production to a point where the efficiency of each agent is in proportion to its cost, or where the return from each agent per unit of expenditure is the same, it is a matter of indifference to him whether an extra unit of money is spent on one agent or another. If, however, he was getting higher returns from capital at the margin as compared with labour, it would not be a matter of indifference to him how he spent an extra unit of money. It would be spent on capital, not labour.

Efficiency in relation to cost.—There is competition between different forms of capital. A printing press may use ordinary printing machines for which compositors are employed, or instal linotype machines, which dispense with compositors. Linotype machines compose a whole line at a time; the mistake of a single letter in a line necessitates re-composing the line. A linotype operator must, therefore, be highly trained and accurate in his work, or he would never

finish composing a single page. A linotype machine produces its own new type as it works. Under certain conditions a press may work with linotype machines only, or more with linotype machines. These machines are more costly; the extent to which they are used will be determined by their efficiency in relation to cost.

In every case, therefore, whether it is a question of acquiring more land for adding another wing to a factory, or of employing more fixed capital in the shape of machines, or hiring more skilled or unskilled labour, or more women or boys or adult male labour, the addition to output is considered in relation to its cost.

All of us frequently measure returns in service from a given unit of expenditure and substitute the more profitable for the less profitable expenditure. I buy a cheap pair of shoes for 3 rupees. It quickly loses shape, *requires frequent repairs*, and wears out in three months. A pair of shoes costing Rs. 8, which preserved its shape, required next to no repairs, and lasted for a year would be more economical, or would give greater returns in service per unit of expenditure.

It is a common saying in Urdu: *مہنگا روئے ایک بار۔ سنستا روئے بار بار* (a costly article makes the purchaser cry once only, a cheap article often). This rule finds its application equally in the spheres of production and consumption.

CHAPTER X

THE LAWS OF RETURNS

Suppose you are making the sweet milk preparation known as *khir*. The ingredients of *khir* are milk, rice and sugar. Here are three 'factors of production.' We ignore other items of cost. In what proportion would you combine these three factors in order to get the best result? Surely you will not take equal quantities of milk, rice and sugar? A seer of milk, a seer of rice and a seer of sugar will make bad *khir*. Perhaps you prefer the combination 1 seer of milk, and $\frac{1}{16}$ th of a seer of rice and sugar each. But it is possible to slightly vary the proportions. Some may prefer a little more or a little less of sugar, or a little more or a little less of rice with a given quantity of milk.

Suppose you wish to double the quantity of *khir*. You will have to exactly double all the three ingredients, if you do not wish the quality to suffer. Doubling the quantity of sugar and rice while the quantity of milk remained unchanged would ruin the preparation. The result is the same if the additional seer of milk is of inferior quality—not pure but heavily adulterated milk. In terms of satisfaction, the result is not doubled.

1. COMBINATIONS OF FACTORS

Wealth is produced by combinations of Land, Labour, Capital and Enterprise. Almost always these factors are combined in different proportions in the production of different commodities. Compare a tiny wrist watch, price Rs. 30, with a box of 25 cigars, price Rs. 2-8-0. The watch represents more labour and less raw material, and the cigars more raw material and less labour. Precision instruments are sometimes very expensive. A provision-dealer's balance contains for more raw material than the extremely sensitive

balances used by research workers, and yet the latter are incomparably dearer. Several yards of muslin which can be passed through a ring cost much more than as many yards of coarse *khaddar*, though the latter incorporates a larger quantity of raw material.

More or less labour may be combined with a given amount of raw material. More or less capital may be combined with a given amount of labour.

Nothing or very little can be produced without the aid of capital in the shape of indirect goods. But in a primitive economy the proportion of capital combined with labour is low, while in an advanced industrial country labour works with highly specialised tools, which multiply its productivity a thousand-fold.

Land a Fixed Stock.—While all factors of production are scarce, there is one, land, whose quantity is fixed for all time. As population increases the pressure of population on the soil, in a closed community, must grow.

If additional land is not available for food production, attempts will be made to increase yields by intensive methods. When capital and labour are spread lightly over a great deal of land, cultivation is said to be extensive. When increasing amounts of capital and labour are applied to the same piece of land, cultivation is said to be intensive.

Cultivation in India is, in most cases, not intensive, in spite of the small average size of the holding. This is because the average peasant in India does not possess the means of intensifying his cultivation.

The yield of wheat in certain parts of Belgium is stated to be as high as 45 maunds per acre, which may be compared with 15 or 16 maunds per acre in the canal colonies in the Punjab. Increased yields can be obtained by combining more capital and labour with a given amount of land, and there is considerable scope for the improvement of Indian agriculture.

But is it possible to increase yields indefinitely by this method? No. The returns increase up to a certain point and then a decline sets in.

2. THE LAW OF DIMINISHING RETURNS IN AGRICULTURE

Three or four adult workers are required for the proper cultivation of a square of canal-irrigated land (about 28 acres) in the Lyallpur District of the Punjab. (Let us begin with one man, provided with the requisite tools and implements, for man alone, unaided by capital, will raise no crop at all. We assume that the yield is 50 maunds of wheat. As we increase the number of men, yield per man and the marginal yield (the contribution of each successive labourer) will increase up to a certain point, and then diminishing returns set in. Suppose the facts are as set forth in the following table (the last two columns may, for the present, be ignored) :—

Table A.—Yield in maunds of wheat of a square of land (28 acres).

Labourers.	Total Product.	Marginal Product.	Arithmetic Average.	Geometric Average.	Three-men Moving Average.
	Mds.	Mds.	Mds.	Mds.	Mds.
1	50	50	50	50	.....
2	110	60	55	54.77	64
3	192	82	64	62.64	77
4	280	88	70	68.21	85
5	365	85	73	71.26	70
6	402	37	67	63.90	51
7	439	32	62	57.89	28
8	448	14	56	48.48	16
9	450	2	50	34.02	5
10	450	0	45	.....	— 3
11	440	—10	40	.....	—10
12	420	—20	35	.....	.....

Each labourer represents a labour-capital unit. All labour-capital units are of exactly the same quality, or possess the same degree of efficiency.

The table does not represent actual facts. It is merely an illustration.

As the number of labourers increases from 1 to 4, total product rises from 50 to 280 maunds of wheat, and the

marginal product from 50 to 88 maunds. If two labourers produce 110 maunds, and one alone 50, then the contribution of the second is 60 maunds. When five men are employed, marginal product falls from 88 to 85, but the total product rises. The total product reaches its maximum when 9 men are employed—450 maunds of wheat. The tenth man makes no addition to the total product, while the eleventh and twelfth, by causing confusion, are responsible for reducing the total product. The marginal product progressively diminishes after the fourth labourer, is nil for the tenth labourer, and negative for the eleventh and the twelfth labourer.

It may again be emphasized that diminishing marginal returns are not due to any progressive deterioration in the quality of the additional labourers employed, but to the fact that a given quantity of land is being combined with increasing quantities of other factors. One is reminded of the law of diminishing marginal utility. As consumption of oranges is increased, marginal utility declines because we are so constituted, not because of any difference in the quality of the oranges. They are exactly the same.

The reader may object to our illustration. Who ever employs one labourer after another on a square of land to note the variation in the marginal product of labour? Still the fact remains that if more and more labour and capital were applied to the same piece of land (we divide them into equal labour-capital units or 'doses' merely for purposes of exposition), the returns could not be increased indefinitely. This is known to every practical farmer. The figures in our table are imaginary, but not the principle which they illustrate.

Now if we assumed that land alone was scarce, and labour and capital were free goods, 9 men would be employed for the cultivation of a square. The tenth man is useless. His labour is thrown away, while the employment of the 11th and the 12th labourer causes loss.

But labour and capital are not free goods. Assuming that all labour is hired, the rate of wages would decide the number to be employed.

2. MARGINAL AND AVERAGE PRODUCT

Figure 31 shows total product, marginal product (M) and the arithmetic average (AA).

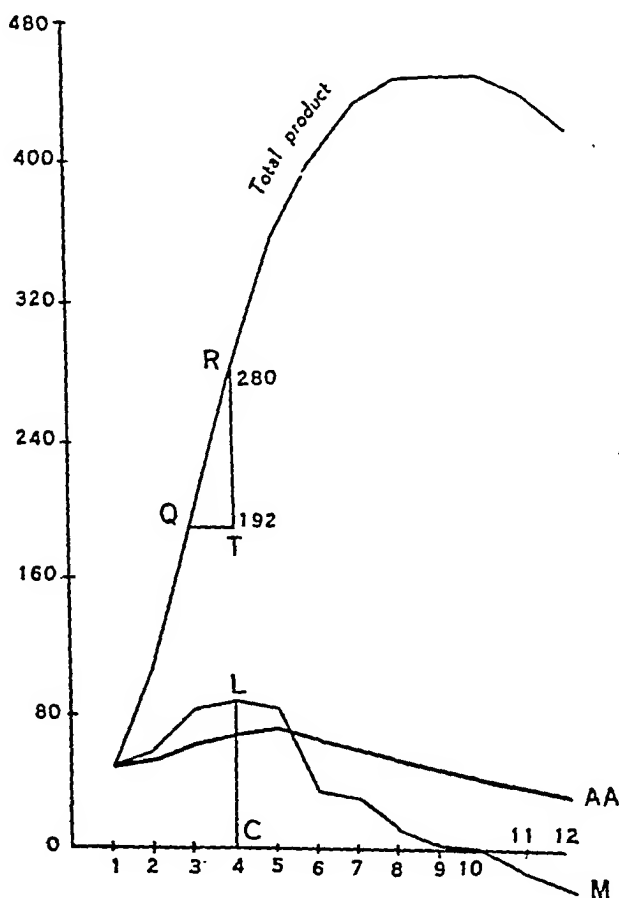


Fig. 31

The curve of marginal product is clearly seen to be derived from the curve of total product. When total product increases from 192 to 280 maunds of wheat, the marginal product is 88, ($LC=TR$); when the total product ceases to increase, the marginal product is 0 (for ten men).

Figure 32 shows the marginal product and two averages (arithmetic and geometric), both derived from the marginal product. For the present the geometric average may be ignored.

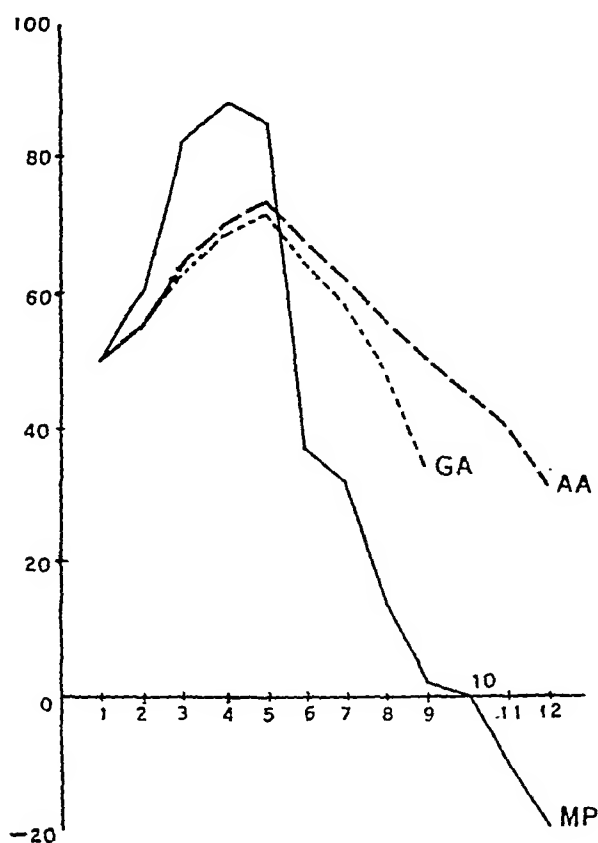


Fig. 32

The marginal product is highest for 4 men and average product for 5 men. Thereafter both curves fall continuously.

According to the figures given in Table A, the marginal and the average product never become equal. Can we make them equal at any point?

We reproduce below a portion of Table A:

Labourers	Total Product.	Marginal Product.	Arithmetic Average.
	Mds.	Mds.	Mds.
3	192	82	64
4	280	88	70
5	365	85	73
6	402	37	67

Marginal product begins to fall before average product. We are varying labourers in units of one at a time.

If it were possible to employ the 5th man for part of the time, or instead of 5 whole men we had 4.22 men, the total product may be raised to 367 maunds of wheat, in which case the marginal product would be 87 (367 minus 280, total product for 4), and the average product would also be 87 ($367/4.22 \approx 87$; to be exact we should say $4\frac{1}{2}$ men), and we may speak of 87 maunds of wheat as the 'true maximum average product.' But this 'true maximum average product' can come into existence only on the supposition that the 5th man, when employed for part of the time (19 units of time out of a total working day of 87 units), makes an addition to the total product of 87 maunds of wheat but, when allowed to work for the remaining 68 units of time, manages to reduce the total product by two maunds of wheat—for according to the given data the total product for 5 men (or 5 labour-capital units) is 365 maunds of wheat. How is that possible?¹

¹The same difficulty is experienced in equalising marginal and average products in the example given by Dr. Benham (*Economics*, 2nd edition, p. 130). A portion of Dr. Benham's table is reproduced below:—

Number of men per sq. mile.	Total product per sq. mile	Average product	Marginal product
1	100	100	100
2	250	125	150
3	450	150	200
4	646	161.5	196
5	837	167.4	191
6	1022	170.3	185
7	1200	171.4	178
8	1370	171.2	170

We cannot equalise marginal and average products in the given case except by making unwarrantable assumptions.

Further, there is no such thing as a 'true' maximum or minimum average product. 'Average' is a statistical term, and there is more than one kind of average. The true maximum average product and the relation of the average to the marginal product would vary according to the type of average used.

A fixed average may be arithmetic or geometric; or our average may be a moving average.

With the help of logarithmic tables the geometric average can be as easily calculated as the arithmetic. The arithmetic average of three items is $\frac{a+b+c}{3}$ and the geometric average $\sqrt[3]{a \times b \times c}$, and so on.

The maximum geometric average is 71.26, which is no

Marginal and average products are never equal. With about 78 men per square mile, as Dr. Benham says, they would be equal (more exactly with 7.78 men). When the eighth man works for 0.78 per cent. of the full time, he raises the total product from 1200 to 1377 units; the marginal product is 177 (1377 minus 1200, total product for 7 men), and the average product is also 177 ($\frac{1377}{7.78} = 177$). But having raised the total product to 1377 units by working for 0.78 per cent. of the full-time, the eighth man manages to destroy 7 units of the crop in the rest of the time, so that the total product for 8 men is 1370. How is that possible?

A table may be so constructed as to equalise marginal and average products. For example:—

Labourers	Total product, units of wheat	Average product, units of wheat	Marginal product, units of wheat
1	5	5	5
2	11	5.5	6
3	19	6.3	8
4	30	7.5	11
5	40	8.0	10
6	48	8.0	8
7	52	7.4	4

For six men the marginal and the average product are equal. But nothing whatever depends on equalising the two.

less 'true' than 73, the maximum arithmetic average. After rising to 71.26, the geometric average also falls.

A Moving Average.—A moving average is very useful for certain purposes and we shall employ it later in the book. The last column of Table A gives moving averages for 3 men taken at a time. The sum of the marginal products of labourers 1, 2, 3 is $50+60+82=192$. Dividing by 3 we get 64, which we set down in the centre, *i.e.*, against the marginal product of the second labourer. We then take labourers 2, 3, 4. The sum of their marginal products,

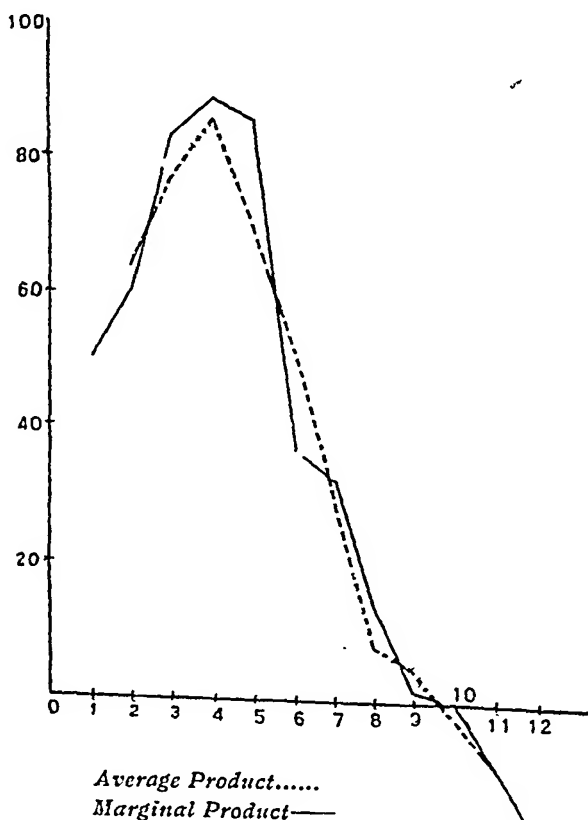


Fig. 33

$60+82+88=230$, divided by 3 gives us 77, and so on throughout the table.

Figure 33 shows the relationship of average product obtained by a 3-men moving average to marginal product. The two curves cut each other at several points. If the marginal product varied differently, as it well might, the average product curve obtained by means of a moving average might, after a certain point, exactly coincide with the marginal product curve.

We have followed the expounders of New Economics in devoting space to the 'relationship' of marginal and average product. The investigation of this 'relationship' has no vital connection with the principle of diminishing returns.

✓ It should be noted that diminishing returns start from the point at which the marginal product begins to fall. There are increasing returns up to 4 men, and thereafter diminishing returns. The law of diminishing returns relates to the happenings at the margin. It is concerned neither with the average product nor with the total product. In our own illustration the average product begins to fall at a later stage, while the total product must go on increasing until marginal product falls to zero.

✓ 3. ABSTRACT STATEMENT

Assume now that there is no scarcity of labour or capital, so that ever-increasing amounts of labour and capital can be applied to land. If the object was to maximise the total return, the application of capital and labour would be pushed to a point where the marginal return to a 'dose' of labour and capital resulted in no increase of product. In other words, land would consume labour and capital until their marginal utility, or productivity, was zero. Similarly if oranges were supplied free of cost one might consume them until their marginal utility dropped to zero. Total utility would be maximum then.

If capital and labour were scarce, but any amount of land were available, more and more land might be combined with a given amount of labour and capital until the marginal utility of land dropped to zero. The total return would go on increasing until an additional acre ceased to

make any contribution to the output. At this point the total return would be maximum. In this case, we shall talk of the diminishing marginal returns from labour and capital, for as more and more land was brought under cultivation, while the total return would go on increasing up to a certain point, it would increase at a diminishing rate. In the initial stages, however, the marginal return may increase.

The law of diminishing returns is of general application, while it has a special significance in agriculture.

Generally, or abstractly, diminishing returns are encountered in an industry when, as the industry as a whole expands, additional supplies of an essential agent of production cannot be obtained, or are of inferior quality, other things being equal.

Other things may not be equal. Even in agriculture the operation of the law of diminishing returns may be held in check for a time by improvements in the arts of cultivation, though eventually the law of diminishing returns would assert itself.

4. THE LAW OF INCREASING COST

The law of diminishing returns is the law of increasing cost. As the marginal returns decrease, marginal cost rises.

Assume that each labour-capital unit represents an expenditure of 100 rupees and that the unit of output is one maund. The following table shows the fluctuations in marginal cost as total product increases:—

Labour-capital units	Cost in rupees	Total Product, maunds of wheat	Marginal Product maunds of wheat	Marginal cost per maund, Rs.
1	100	50	50	2.00
2	200	110	60	1.66
3	300	192	82	1.22
4	400	280	88	1.14
5	500	365	85	1.18
6	600	402	37	2.70

Labour-capital units	Cost in rupees	Total Product, maunds of wheat	Marginal Product, maunds of wheat	Marginal cost per maund, Rs.
7	700	434	32	3.13
8	800	448	14	7.14
9	900	450	2	50.00
10	1000	450	0	...
11	1100	440	-10	...
12	1200	420	-20	...

Marginal cost falls from Rs. 2 per maund to Rs. 1.14 per maund as the total product increases from 50 to 280 maunds, and rises thereafter.

Marginal cost is the addition made to total cost by incrementally enlarging the output. As the output increases from 280 maunds to 365 maunds, the addition made to total cost is Rs. 100 and the additional output obtained, or marginal product, is 85 maunds of wheat. Therefore marginal cost per maund is $100/85$ or 1.18 rupees per maund.

Manufacturing Industries.—Let us study the expansion of a manufacturing industry when the supplies of an essential agent of production are not available, or are of inferior quality.

Paper is manufactured in India largely from *sabai* grass. If grass of suitable quality became more and more difficult to obtain, higher and higher prices would have to be paid for it and, other things being equal, marginal cost would rise. That *sabai* grass is becoming scarcer is a fact, for which reason the future of paper manufacture in India depends on the development of the bamboo-pulp industry.

If, in the manufacture of cigars, additional quantities of tobacco of suitable quality could be obtained only with increasing difficulty and at higher prices, marginal cost would rise and the law of diminishing returns would assert itself in the industry.

It may be objected that, in these two cases, diminishing returns set in on account of nature's rôle in production. We may assume that there is no scarcity of raw material

and labour, but there is difficulty in obtaining the requisite supplies of capital. At any given moment there is a limited amount of capital available for investment in industries. As an industry expands it would tend to absorb a higher and higher proportion of the total available supply of free capital. It may be able to do so only at a higher cost. If more and more raw material and labour are combined with a fixed amount of capital, capital would yield diminishing returns and marginal cost would rise, other things being equal.

The law of diminishing returns, then, is a law pervading all industries. Diminishing returns must be encountered in all cases when more and more units of other factors are combined with a fixed quantity of a given factor. But in agriculture as well as in manufacturing industries counter-acting forces may be in operation.

5. SPECIAL CASE OF LAND

The law of diminishing returns has a special application to agriculture for two reasons:—(1) the supply of land as a whole is fixed, and (2) relatively nature's rôle in agriculture in increasing marginal cost is more important than in manufacture. Or we may put it otherwise—man is able to counteract the tendency to diminishing returns more effectively in manufacturing industries than in agriculture.

We are not suggesting that agricultural methods cannot be improved. We have already referred to revolutionary changes in agricultural methods in European countries in recent years, which have reduced agricultural costs. We have also mentioned the remarkable increase in yields due to biological progress. The law of diminishing returns is thus held in check—but not for very long. In the end capital is not a substitute for land, and there is a definite limit to increase in yields.

It is often vaguely stated that scientific development of resources in a socialist economy will inconceivably increase productive power. It should never be forgotten that in the matter of food and raw materials nature is still master. On the basis of existing knowledge it cannot be said that the

scope for increasing yields in agriculture and related industries is unlimited.

Plants require space. An indefinite number of plants cannot grow in a given area.

A single wheat plant cannot bear an indefinite number of ears of corn. The weight of the corn will prevent the plant from standing upright.

Plant growth depends on the elements of nutrition which the plant can draw from the soil. Increased knowledge has made the control of 'soil reaction' increasingly scientific, but time will probably never come when the use of chemical fertilizers would supply any deficiency in the chemical constituents of the soil to any extent.

Natural Limits to Expansion.—It is the considered opinion of men of science that measures for the increase of food production, which are of any value from the practical point of view, 'are essentially limited.'

More food-crops may be grown at the cost of commercial crops. But the substitution of food-crops for non-food crops has its limits.

More milk may be obtained from a cow. Dutch cows give from five to ten times as much milk as Indian cows, and there is scope for increasing the yield of milk per cow in India. But even with the best possible care and feeding a time will never come when a cow will begin to yield 100 maunds of milk daily.

More eggs may be obtained from a hen. But in this matter also 'the victory is still with nature.'² A time will never come when one may hope to obtain 1000 eggs from a hen daily.

Why? Nature has set limits to expansion in every case.

Take a weak, starving, emaciated man and feed him properly. His health will improve and his weight will increase. But the weight could not increase beyond the limit set by nature. However well you may feed yourself, you will never attain the weight of an elephant. Even obesity has its limits. No individual can grow in bulk so as to fill, entirely by himself, even the smallest of class-rooms.

² *Unsolved Problems of Science*, by A. W. Haslett, pp. 296-98.

The law of diminishing returns is of special significance in agriculture because of the niggardliness of nature. Nature is not always niggardly. In a new country, nature is exceedingly bountiful at the start, but grows niggardly with time—when the law of diminishing returns comes into operation. In over-populated countries like India, China and Japan the peasant has to wage a bitter struggle to wrest his subsistence from nature.

The nature of agricultural organisation may also not be ignored. Agricultural work is largely incapable of subdivision into simple processes which may be mechanised, like industrial processes carried on within the four walls of a factory.

And then there is the all-important factor of weather which is beyond human control.

Over long periods of time it is possible for marginal returns from agriculture to increase, while, at any given time, the return from the land is subject to diminishing returns. It is, however, doubtful if marginal returns from agriculture have increased in India during the course of the past several hundred years. There has been progress in other directions, but our methods of cultivation have largely remained unchanged.

6. THE LAW OF INCREASING RETURNS

The law of increasing returns is of special significance in manufacturing industries, but it may rule in agriculture under certain conditions. What are those conditions?

If more and more land of the best quality is available as agriculture expands, and there is no lack of other factors of production, agriculture will yield increasing returns.

In new countries, for a time, increasing returns are obtained from agriculture. And in old countries, as we have seen, the tendency to diminishing returns may be held in check for a time with the aid of science. It is, however, in manufacturing industries that the law of increasing returns operates strongly.

When there is no dearth of any essential agent of production as a manufacturing industry expands, it will yield

increasing returns.

We assume that with its expansion the industry is able to obtain the requisite quantities of raw material, labour and capital. If the supply of any of these essential factors is lacking, or the quality becomes inferior, diminishing returns will immediately set in.

We decide whether an industry is yielding increasing or diminishing returns according as its marginal returns are rising or falling respectively.

In terms of cost, an industry is subject to the law of increasing cost if, with its expansion, marginal cost rises. It is subject to the law of decreasing cost if, with its expansion, marginal cost falls.

When marginal cost rises or falls, the price of the products of the industry also rises or falls respectively. The law of increasing returns in manufacture thus means that as a manufacturing industry expands, the price of its products falls, other things being equal.

We have to introduce this qualifying phrase because even when price should fall on account of increasing returns, monopoly or Government taxation may send it up. A sudden increase in the internal or external demand for a commodity may also be responsible for a rise in price, though ultimately price will fall when the industry is organised on a larger scale to meet the increased demand.

It is sometimes urged that a greater output will be probably associated with a higher price. New Economics is sceptical of the law of increasing returns.

A greater output may mean a higher rate of wages, a higher rate of interest, and higher prices for raw materials. If the tendency to increasing marginal cost is not counteracted by other influences, diminishing marginal returns will set in.

But the operation of the law of increasing returns in manufacturing industries means that the tendency to increasing cost is more than offset by the tendency to decreasing cost, so that, with the expansion of a manufacturing industry, marginal cost tends to fall, and with it the price of the product.

As to the reality of the phenomenon there is no doubt at all. When goods are produced on a large scale with modern methods, price does fall. This is beyond dispute.

Get a radio set of high quality made specially to your order. The cost will be high. A standardised radio set of the same quality will be cheaper.

Mass production lowers cost. Penguin books are priced at 6d. Considering the number of pages and printing, the price is ridiculously low. Books produced in India are relatively high in price, even when wages in India are much lower than in England. Why?

An Indian author will have good reasons to congratulate himself if he was able to sell even a few hundred copies of a book meant for the general reader. Penguin books are not text-books, but they command a market throughout English-speaking countries. If 50,000 copies of a book are printed, the cost of printing per copy is negligible.

An 'Omnibus' volume contains about a thousand pages. If only 1,000 copies were printed of an 'Omnibus' volume, the price would be high. But these books are sold in hundreds of thousands.

Good, serviceable tennis shoes are sold in India for a rupee, or a little more, per pair. They are standardised shoes. Get tennis shoes made to order (as tennis players were obliged to do thirty years ago), and you will find out for yourself whether mass production lowers cost or not.

7. SUPPLEMENTARY AND PRIME COSTS

Before proceeding further it is necessary to define two terms.

The cost of production of a business, or a particular firm, may be divided into two classes. There are some costs which cease when the business stops for a short time, and there are other costs which continue. The costs which cease are called 'prime costs' (also operating costs and variable costs) and the costs which continue are called 'supplementary costs' (also fixed costs). The proportion of supplementary to prime costs varies in different industries.

Let us take a very simple example, that of a college. A college has its supplementary and prime costs. Suppose the college is closed for a day. What are the expenses which will cease, or be saved? They are insignificant—the chalk consumed by the teachers, the chemicals and other materials consumed daily in science laboratories, stationery used in the office, and the wear and tear of college property which is incidental to work. All other expenses continue. The heaviest item of expenditure in a college is salaries of the staff. They continue, whether the college is open or closed. Usually a college is open for less than six months in the year, but all permanent employees have to be paid for full twelve months. Interest on capital invested in college buildings and furniture is also an item of expenditure which continues to be incurred, irrespective of whether the college is working or is closed for a day, or a week, or for the summer vacation.

We may next consider a proper business—a railway. When there is a railway strike some train services are cut down and others continue. Let us suppose that the strike is complete, so that no trains are running. What are the expenses which the railway would save? They are not of very great significance—fuel consumed by engines, lubricating oil, wear and tear of wagons and rolling stock, and wages of daily employees. This is about all. A huge amount of capital is invested in railway fixed and rolling stock. Interest on this capital would be lost because of the strike. Wages to permanent employees have to be paid, strike or no strike. Where the proportion of supplementary costs to prime costs is high, a strike would inflict a heavy loss on a business, for the prime costs which are saved because no work is done are comparatively negligible. The main costs continue.

Next suppose there is a *mela*, or fair, as of *Kurukshetra*. The railways make money then. For they are able to deal with a vastly increased traffic without laying down new track, or building new bridges, or new engines and wagons.

A railway train may carry its full load of, say, 1,000 passengers. But it has still to run to schedule even if the number of passengers is not more than 100 or 50, or 10. In

which case does the railway earn more ?

The larger the railway traffic, the lower is the cost per unit of traffic. Wherever fixed capital is large, the proportion of supplementary to prime costs is high. And wherever this proportion is high, the business or industry concerned would be strongly subject to increasing returns.

8. INDIVISIBILITY

Much of railway plant and equipment is 'indivisible.' A bridge over a river is 'indivisible.' Not that you cannot break it into tiny bits. You can. But if two places, say Lahore and Gujranwala, are to be connected by a railway, a whole bridge has to be thrown over the Ravi. And this bridge is 'indivisible' in the sense that the whole bridge is required for crossing the river, irrespective of the number of passengers and the amount of goods carried by the railway daily.

A railway engine, and wagons, usually run on two rails. If the traffic is less, you cannot dispense with one rail. Railway track is 'indivisible.' If the traffic increases considerably, double track may have to be laid down, not one and a half track.

A very simple example of 'indivisibility' is a *chowkidar* or night watchman. If you want one, you have to employ the whole of him. That is the reason why no night watchman is employed in a street unless the cost is shared by a number of residents. A *chowkidar* can almost as easily guard a whole street as one house in the street. The cost of a *chowkidar* falls as the amount of work for him, within limits, increases. The cost is spread over a larger number of houses in a street, or a greater output in a factory.

Similarly the entrepreneur is 'indivisible.' Within limits the same entrepreneur can control a smaller or larger output.

A plant is 'indivisible.' Suppose you have set up a plant to produce 5 tons of ice daily. You have bought it and installed it. Now if you are not producing more than 4 tons of ice daily, you are not saving any interest on capital invested in the plant, or in the factory building. You may

not fully use the plant, but its working cost is not materially reduced thereby.

The same is true of your manager and permanent employees. If you were working the ice-plant to full capacity, you will not have to add to your 'over-head' expenses. ('Over-head' expenses are part of supplementary costs, i.e., those due to the management, interest on capital and other general needs of a business). If necessary you may, at the most, engage a few casual workers on daily wages.

9. AVERAGE COST OF AN INDIVISIBLE FACTOR

We take a radio engineer in a factory which manufactures standardised radio sets by machinery. Let us suppose the salary paid to the engineer is Rs. 30,000 per year. The cost of the engineer per unit of output would decrease with the increase of output.

*Radio sets in
units of one
thousand.*

*Average cost of the engineer on
Rs. 30,000 per annum per unit of
output*

1	30
5	6
10	3
15	2
20	1.5
25	1.2
30	1

Whether the factory turns out 1,000 radio sets in a year or 30,000 sets, the same salary has to be paid to the engineer—he is 'indivisible.' It follows that as the output increases, the average cost of the engineer per unit of 1,000 radio sets must fall. If 1,000 sets only are produced, the cost of the engineer per unit is Rs. 30; if 10 units or, 10,000 sets were produced, the average cost would fall to Rs. 3 per unit, and for 30,000 sets, it would be only Re. 1 per unit. The average cost multiplied by the units of output in all cases gives us the engineer's salary.

Why Marginal Cost Falls.—We now know at least one

good reason why increasing returns, or decreasing costs, rule in manufacturing industries employing methods of mass production.

When a plant is set up, the normal demand which it would be required to cope with is considered. Now the optimum of the plant may be just equal to the normal demand. By 'optimum' we mean the maximum capacity of the plant. If normally one expects to produce 2 tons of ice daily, one may set up just a two-ton plant. In most cases, however, the optimum is greater than the normal demand. And it is not merely a question of machinery, but of other equipment that goes with it and 'indivisible' permanent staff, and all that constitutes 'over-head' charges. It is rarely, if ever, that a factory cannot produce more than the 'normal' output. It is rarely, if ever, that a railway is built only to carry the daily normal load of passengers and goods.

Wherever the optimum of a plant exceeds 'normal' demand, economies of large-scale production are latent. And they are realised when demand increases so that the industry as a whole begins to work up to its full or nearly full capacity.

The tendencies which make for increasing cost in the shape of higher prices of factors of production, are more than neutralised by the economies of scale. If that were not so, the price of manufactured goods could not fall with the expansion of the industry as a whole.

Another point deserves attention. To work a 4-ton ice plant is more expensive than a plant of half that size. The efficiency of the larger plant is greater, but is it greater exactly in proportion to its cost or in more than this proportion? If efficiency increased only in proportion to the size of the plant, there may be nothing to choose between one 4-ton ice plant and two 2-ton machines. As a matter of fact the larger machine is more economical, and that is why, as an industry as a whole expands, the size of the plant it uses grows bigger, which lowers marginal cost, or increases marginal returns.

R. F. Harrod has employed a 'family of parabolas' to obtain the curve of diminishing cost in manufacturing

industries over a long period of time. His diagram³ is reproduced below :—

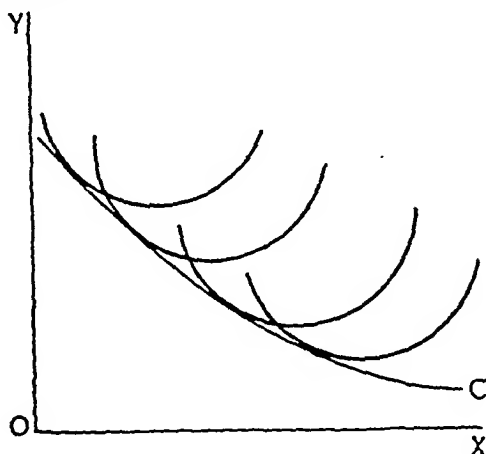


Fig. 34

Cost is measured along OY and output along OX.

Only a portion of each parabola is shown. Each parabola may be taken to represent the cost of output from a plant of given size. The lowest point of the parabola shows the cost of the optimum output from the plant it represents. The plants are progressively getting bigger as the industry expands, and the point of minimum cost gets lower and lower. The locus of these points gives us the curve C, which falls as the output increases.

Apart from the fact that bigger plants are more economical to work than smaller plants, production on a larger scale permits the realisation of the internal and external economies already mentioned.⁴ Greater division of labour,

³ *Economic Journal*, Dec. 1931.

⁴ Mr. Shove (see *Economic Journal* for March 1930) calls internal economies 'the economies of individual expansion' and external economies 'the economies of large scale industry'. The expansion of an industry as a whole, as of an individual firm, may be accompanied by disadvantages which Mr. Shove calls 'diseconomies'. The diseconomies of individual expansion are greater difficulties of supervision, or of marketing, delivery at a greater distance from the place of production and so on. When an industry as a whole is expanding, difficulties connected with the supply of labour or raw materials may have to be overcome.

greater specialisation of machinery, more and more minute sub-division of processes until they are mechanised—in short all that is covered by 'rationalisation' becomes possible with the expansion of a manufacturing industry. Causes are at work within the factory which tend to lower marginal cost, and causes are also at work outside the factory which have the same effect. As we have already seen, the growth of external economies in the form of improved marketing and transportation facilities, better-organised subsidiary industries, and business specialisation, benefits all firms in an industry.

It has already been explained that the realisation of economies of scale depends on the growth of demand, which makes production on a larger scale possible.

Rail-road competition.—Where supplementary costs are high, a fall in demand creates difficulties for a business. A good example is the loss inflicted on railways by the development of road competition. Rail-road competition is keenest over short distances, which has compelled the railways to reduce their rates to levels which were unthinkable before (12 annas for a return ticket from Lahore to Amritsar). Recently 18 branch lines in different parts of

It is sometimes argued that internal economies cannot be reconciled with competitive equilibrium. If the expansion of an individual business is accompanied by the realisation of economies, why does not the business continue to grow almost indefinitely? We have already answered this question. Attention may be drawn here to Mr. Shove's analysis.

If the aggregate output of the industry is constant, then the economies of individual expansion are offset by equivalent diseconomies. But when the aggregate output increases, these diseconomies become negligible so that the expansion of individual firms is accompanied by a net gain in efficiency.

An individual firm may expand at the cost of its rivals, or because it is able to satisfy new demand. The latter is a less costly process, for in the former case either it has to sell at a lower price or spend more on marketing and advertising. Internal economies are real in the sense that the expansion of an individual firm is accompanied by increasing returns or a diminishing supply price. In a state of equilibrium, which implies that there is no redistribution of output between the firms producing an aggregate output, an individual firm does not grow beyond a certain point on account of diseconomies of individual expansion. But when demand is expanding, making it possible for an individual firm to produce more without diseconomies, its supply price falls.

India have been dismantled and the material rendered useless exported to the United Kingdom for war purposes. The lines had become unremunerative.

Charging what the Traffic will Bear.—It is impossible to discover the cost of carrying a unit of goods or a passenger separately; much of the fixed capital of a railway is used both for passenger and goods traffic. The guiding principle in railway rate-fixing is that 'traffic as a whole pays the expenses as a whole.' In order to meet the cost as a whole, railways charge 'what the traffic will bear.' The charge for carrying silk per maund is higher than that for coal. Silk can bear a higher charge; relatively to coal it contains more value in smaller bulk. Now railways must carry all goods and passengers; lorries are not compelled to carry unprofitable traffic. Before the rise of the new competition, the railways were in a comfortable position, and they made profits. What they lost on the roundabouts, they made up on the swings. Road competition, as Sir Thomas Stewart, our Railway Member, complained in introducing the railway budget for 1939-40, has 'disturbed the harmony and balance of the railway rate system.' The new competitors 'own swings but contract no losses on the roundabouts.' The reader may have seen swings and the 'merry-go-round' in a 'carnival,' or fair. The proprietor of a carnival is concerned with profits from the whole show. He may not make much money out of the 'merry-go-round', and by itself the 'merry-go-round' may be a source of loss. But it is still worth while retaining it as an attraction. The loss on the 'roundabouts' is made good by the swings.

But if the railways begin to lose the more profitable traffic to lorries, and are left with the less profitable traffic, a serious situation is created for them—on account of the 'indivisibility' of railway plant, or the high proportion of their supplementary costs to prime costs. The fate of the railways is not a matter of indifference to the country as a whole for several reasons: they represent a huge amount of capital (over 880 crores of rupees), they contribute out of their profits to the general revenues of the country, and they are needed, not merely for the economic development of the country, but as a means of protection against famine,

and for national defence. If the existence of the railways as a business were threatened by road competition, it would be necessary for the Government to intervene to regulate this competition, and co-ordinate the two services.

Contraction of Demand.—Let us next take an ordinary industry in which the proportion of supplementary costs to prime costs is high, e.g., the iron and steel industry, or any other industry which uses much fixed capital. If demand contracts, would it be profitable to immediately cut down production?

In most cases the output would not be much reduced. The reason is that the same supplementary costs are incurred for a smaller as for a larger output. The entrepreneur would continue to produce very nearly as much as before, but sell at a lower price. By selling at a lower price he would cover all his prime costs and a good proportion of the supplementary costs. When the contraction of output of an industry as a whole consequent on a reduction of demand is small, the fall in price may be heavy.

It is possible that the contraction of demand is temporary. If it is expected that, after a short time, demand would increase, the goods which do not find a market would be stocked for future sale and the price need not fall much. But if the contraction of demand is permanent, the piling up of stocks which would never be cleared is of little use. The industry would contract—a slow and painful process when there is much fixed capital. New capital would not be invested in the industry, and old capital, as it wears out, will not be replaced.

As the expansion of a manufacturing industry operating under the law of increasing returns lowers marginal cost, its contraction is accompanied by a rise in marginal cost.

APPENDIX TO CHAPTER X

Rectangular Hyperbolas

Curves known to mathematicians as rectangular hyperbolas may be usefully employed in economics for illustrative purposes.

It has been explained in the preceding chapter that the average cost of an indivisible factor per unit of output must fall as the output expands. It follows that the product of output and average cost per unit of output will be a constant quantity. For example, a certain amount of capital is invested in factory buildings and interest on this capital is part of cost of production of goods. The larger the output, the lower would be the charge on account of interest per unit of output. Or we may consider the radio engineer mentioned in Section 9 of Chapter X. The diagram given below illustrates the case :

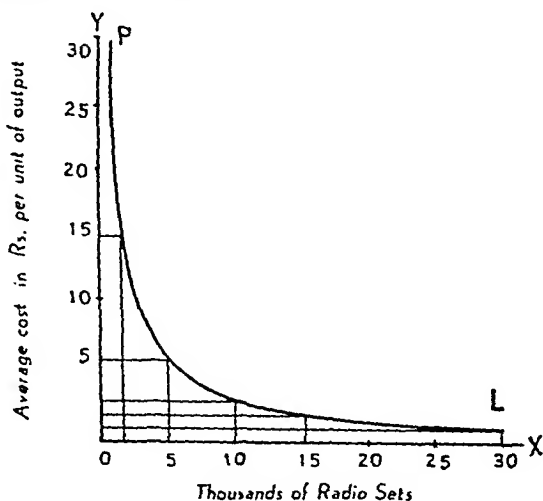


Fig. 34(a)

We measure the quantity of output along OX and the average cost of the engineer in rupees per unit of output along OY. Units are in thousands. When ten units (10,000 radio sets) are produced, the average cost of the engineer per unit is Rs. 3,000, his total salary being Rs. 30,000 per annum; when 15 units are produced, the average cost of the engineer per unit of output falls to Rs. 2,000, and for 30 units, or 30,000 sets, this average cost is only Re. 1 per set, or Rs. 1,000 per unit of output. The product of output and average cost per unit of output

remains unchanged, Rs. 30,000. It must be so because the engineer draws the same salary, whatever the output.

The curve PL has been so drawn that if, from any point on the curve, lines were drawn perpendicular to OX and OY, the rectangle thereby obtained would be equal to any other rectangle obtained in a similar manner.

In this diagram PL is an average cost curve relating to an indivisible factor.

We can turn PL into an indifference curve.

Let us take two commodities, x and y . We measure units of x along the axis of X and units of y along the axis of Y. The curve may be taken to show the different combinations of x and y which would be equally preferred by an individual:—

<i>Units of x</i>		<i>Units of y</i>
1	and	30
5	"	6
10	"	3
15	"	2
20	"	1.5
25	"	1.2
30	"	1

An individual would have 1 unit of x and 30 units of y , or, indifferently, 5 units of x and 6 units of y , or 20 units of x and 1.5 units of y , and so on. PL is thus an indifference curve. The total satisfaction obtained by consuming different combinations of x and y represented by different points on the curve PL is always the same—the different rectangles enclose an equal area.

An indifference curve is given all sorts of shapes but, properly speaking, it has only one form, that of a rectangular hyperbola.

Marshall makes use of rectangular hyperbolas in illustrating the theory of monopoly. Suppose we measure the quantity of gas produced by a monopolist in thousands of feet along OX and monopoly profit or monopoly revenue in d . per feet along OY. Then the product of quantity and monopoly revenue per 1,000 feet would be the same for all points on the curve PL. For 10,000 feet the monopoly revenue would be $10,000 \times 3d. = 30,000d.$, and for 20,000 feet, $20,000 \times 1.5d. = 30,000d.$ and so on. PL has become a constant revenue curve.

CHAPTER XI

PRODUCTIVE ACTIVITY AS A WHOLE

We have studied the impulses which lead to production. We have studied the nature of production, the various types of productive organisation in agriculture and industry, the rôle of markets and speculation, the change from hand-power to machines, and the laws of production. Before proceeding further we may briefly review the functioning of the productive system as a whole under capitalism.

Capitalism is rapidly changing, but its corner-stone is still freedom of enterprise. And with freedom of enterprise goes private ownership of means of production.

1. SYSTEM OF NATURAL LIBERTY

Adam Smith was the greatest advocate of freedom of enterprise, and the severest critic of 'restraint.' He thus explained his conception of the 'obvious and simple system of natural liberty :'

"All systems either of preference or of restraint, therefore, being thus completely taken away, the obvious and simple system of natural liberty establishes itself of its own accord. Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest his own way, and to bring both his industry and capital into competition with those of any other man, or order of men. The sovereign is completely discharged from a duty, in the attempting to perform which he must always be exposed to innumerable delusions, and for the proper performance of which no human wisdom or knowledge could ever be sufficient: the duty of superintending the industry of private people, and of directing it towards the employments most suitable to the interest of the society. - According to the system of natural liberty, the sovereign has only three duties to attend to; three duties of great importance, indeed, but plain and intelligible to common understandings : first, the duty of protecting the society from the violence and invasion of other independent societies ; secondly, the duty of protecting,

as far as possible, every member of the society from the injustice or oppression of every other member of it, or the duty of establishing an exact administration of justice; and, thirdly, the duty of erecting and maintaining certain public works and certain public institutions, which it can never be for the interest of any individual, or small number of individuals, to erect and maintain; because the profit could never repay the expense to any individual or small number of individuals, though it may frequently do much more than repay it to a great society."¹

In Adam Smith's system of natural liberty State intervention in the economic sphere is reduced to a minimum. The Government maintains law and order, defends the country against foreign aggression, enacts measures penalising fraud and dishonesty, and engages in economic activity which would not attract private enterprise but is essential, e.g., prevention of coast-erosion and care of forests. It is doubtful if Adam Smith would have allowed the State to construct irrigation works—the Punjab canals are a source of considerable profit to the Government. Lord Dalhousie initiated the construction of railways in India—his minute, showing the necessity of constructing railways to connect the chief provinces and cities of India, laid the foundation of the existing system of railway communication. But Lord Dalhousie favoured the construction of railways by companies, not by the State. It was not the duty of the State, he held, to provide a good or service which could be provided by private enterprise. Adam Smith would have made an exception in the case of railway lines of strategic importance, which are a source of loss.

The desire for profit, as we have seen, is the main-spring of productive activity under capitalism. The producer may be a single individual; or several individuals may combine their resources and form a partnership, or a limited private company; or thousands, or hundreds of thousands of individuals may combine to form a joint-stock company. Whatever the type of productive organisation, it owes its origin to the desire for profit, not philanthropy.

Harmony of Interests.—In the time of Adam Smith modern capitalism was just being born, and hand-work, not

¹ *Wealth of Nations*, Book IV, Chapter 9.

machines, was the basis of the system of production. What led Adam Smith to think that individual producers, engaging in production for the sake of profit, also best served the interests of the community?

I set up as a master-tailor to make money. But at the same time I am serving the community. If my work gives satisfaction to my clients, I make more profit. By an 'invisible hand,' as it were, I am led to choose a profession in which I am most useful to the community, while at the same time I best serve my own interests. The reader will note that our argument is in essence similar to that used in establishing consumers' sovereignty.

We assume that harmony exists between the interests of society as a whole and those of individuals working solely or mainly from a desire for profit.

Mill's Argument.—The reasoning of another famous classical economist, J. S. Mill, is slightly different. J. S. Mill also advocated *laissez faire*, but he recognised that trade was a social act. Government interference with trade was justifiable on theoretical grounds. But it was to be condemned (except in very special cases) because it did not produce the results which it was intended to produce.

In Chapter V of his *Liberty* J. S. Mill says:—

"Again, trade is a social act. Whoever undertakes to sell any description of goods to the public does what affects the interest of other persons, and of society in general; and thus his conduct, in principle, comes within the jurisdiction of society; accordingly, it was once held to be the duty of governments, in all cases which were considered of importance, to fix prices and regulate the processes of manufacture. But it is now recognised, though not till after a long struggle, that both the cheapness and the good quality of commodities are most effectually provided for by leaving the producers and sellers perfectly free, under the sole check of equal freedom to the buyers for supplying themselves elsewhere. This is the so-called doctrine of Free Trade, which rests on grounds different from, though equally solid with, the principle of individual liberty asserted in this *Essay*. Restrictions on trade, or on production for purposes of trade, are indeed restraints; and all restraint, *qua* restraint, is an evil, but the restraints in question affect only that part of conduct which society is competent to restrain, and are wrong solely because they do not really produce the results which it is desired to produce by them."

All restraint *qua* restraint is an evil; therefore govern-

ment interference in trade should be reduced to a minimum.

Changes in the structure of industry since the time of Adam Smith and John Stuart Mill (J. S. Mill died in 1873) have rendered the whole argument for a system of natural liberty, with government interference reduced to a minimum, obsolete

We have seen how, with the growth of large-scale production, the size of the business unit increases, and how there is a tendency towards concentration, not only in production, but in control. If a business employs thousands of workmen; if a small number of directors are able to control, with the help of devices which have been mentioned, a large proportion of the productive resources of a country; if a small number of banks, to be counted on the fingers of one hand, direct the flow of the entire capital of a country into productive enterprises—trade and business, production and distribution, cease to be matters concerning private individuals alone.

Conflict of Interests.—It is not realised that under capitalism one may with as good reason speak of mutual conflict of interests as of their harmony. A producer may seek to make a profit not by producing the best and the cheapest goods, but by persuading consumers to buy what they really do not require. Retailers do not fail to take advantage of the ignorance of customers to charge higher prices. The malpractices of village money-lenders are well-known. It would be difficult to speak of harmony of interests between landlords and tenants. We may assume that if competition were perfectly free (as it never is); if labour and capital were perfectly mobile (as they never are); if every one always knew what was good for him, and was in a position to safeguard his interests (which is not generally the case)—the individual, acting selfishly in his own interests, would also tend to promote the best interests of the community. But the real world is not the frictionless world of theoretical economists. And this, together with the change in the structure of capitalism, explains why the simple and obvious system of natural liberty is rapidly vanishing.

2. PRODUCTION UNDER A DICTATOR

Dictatorship ends liberty and free competition. A dictator may be conceived as the owner of all instruments of production and the sole employer of labour. How would a dictator organise production?

We may busy ourselves with the actions of a dictator under hypothetical conditions far removed from reality. For example, we may assume that only one factor is scarce, labour, while there is superabundance of all other factors. When any amount of land may be combined with a given amount of labour, there being no scarcity of land, total output would be the greatest when the marginal product of land drops to zero. When that point has been reached, there will be no advantage in bringing an additional acre under cultivation. Similarly if land alone is scarce, more and more labour may be combined with a given amount of land until the total product is maximised. This will be the case when the marginal product of labour drops to zero. At this point an additional labourer will make no contribution to the total product.

We may next suppose that the dictator has a preference for garden land, or deer parks. This land may be specific, that is suitable only for a particular purpose, or it may not be completely specific, that is, some of it can be used for other purposes. The dictator may use non-specific land for gardens or deer parks. He may, if he so prefers, transfer some specific land to other uses, if it is possible, or allow it to remain unused. This abstract speculation has no contact with reality.

In the real world the main problem confronting a dictator is essentially the same as that confronting hundreds of thousands of producers under capitalism—the utilisation of scarce goods and services, which have alternative uses, for the satisfaction of wants. In a dictatorship we suppose that all decisions are taken by the dictator; under capitalism these decisions are taken by independent producers, each guided mainly by money-making motives.

Planning in Russia.—Let us study Russia's First Five Year Plan. The aim of the Plan was to increase production.

How did the Russian dictator set about this task?

It may be doubted whether he spent many sleepless nights over the problem of equalising the marginal products of non-specific land and specific forest land, or garden land, or deer parks. But he had to decide whether greater attention was to be paid in the Plan to capital goods or the production of industrial equipment, or consumers' goods, to heavy industry or to light industry.

Russia was predominantly an agricultural country. It was decided to industrialise Russia. That meant that Russia was to produce her own industrial equipment. Industrialisation on the basis of imported machines is a process of building from top—what we have been doing.

If the Plan was to lay greater emphasis on the production of industrial equipment, less capital and other resources would be available for light industry, or the production of consumers' goods. Factors of production, that is natural resources, various kinds of skilled and unskilled labour, including organising ability, and capital are scarce. If more of them are diverted to the production of capital goods, less of them would be available for increasing the output of consumers' goods. We assume that the dictator has to depend on his country's resources exclusively for carrying out his Plan. The situation is altered if other countries make large presents of capital and consumers' goods to him.

Russia's First Five Year Plan neglected 'light' industry. In all branches of textile industries, the manufacture of boots and shoes, furniture and other articles of daily use in the household, the achievements fell far short of the Plan. According to a well-informed foreign critic, the population of Russia in 1934 was worse off in regard to clothing than before the Great War. "This is explained by the fact that this industry was neglected for the sake of 'heavy' industry; besides there was a lack of raw material, which they did not wish to import from abroad, since imports were restricted to materials required for industrialisation."²

The scarcity of articles of food was felt throughout the Five Year Plan Period. As compared with 'heavy'

² Prof. Leontief in *Weltwirtschaftliches Archiv*, Kiel, May, 1934, p. 518.

industry, 'light' industry and industries producing articles of food had been set easier tasks in the Plan, and yet less success was attained in their case.

Germany.—The problem of Germany was different—it was not that of industrialisation but of greater food-production. Germany could import food from foreign countries, but in the first place imported food costs money, which Germany did not possess, and secondly, dependence on imported food is a source of weakness in a time of war. Measures were, therefore, taken to expand home production of wheat. Italy did the same. In 1938 about 56 million quintals of wheat were produced in Germany and about 81 million quintals in Italy as compared with about 33 million and 62 million quintals of average annual production in 1925-29 in the two countries respectively (1 quintal = 1'968 cwt.)

Rubber may be imported cheaply but for military reasons the dictator may decide to manufacture synthetic rubber at greater cost. If a dictator is preparing his country for war, more and more labour, capital and natural resources may be diverted from productive to unproductive employments. The manufacture of guns, aeroplanes, battleships and submarines is no means of raising the standard of living of the people. Factors of production being scarce, the dictator has to decide whether he will give the people more butter or more guns. They cannot have more of everything.

3. AN INDIAN DICTATOR

Suppose we make you India's dictator with full powers to reorganise Indian production and distribution. How would you begin?

In taking stock of the situation you will discover that India lacks capital for the development of her industries, that there is too little land per cultivator, and that skilled labour, particularly technicians and experts, are more scarce still. With such resources as the country possesses you have to do your best.

You will have first to settle the basis on which our economy is to be reconstructed. Will you choose the

charkha or the machine? It is not implied that the machine completely excludes the *charkha*. But wherever there is competition between the two, the *charkha* suffers. There is therefore a waste of material and human resources if cottage industries are encouraged which sooner or later are destined to disappear.

Suppose you decide in favour of the *charkha*, and all that it implies. We suppose further that you are an enemy of speed, that you prefer the bullock cart to the motor-van or other more rapid means of transportation. In fact we assume that in your ideal civilisation there are no railways, no motor-cars, and no machine-made goods of any kind. People live in self-sufficient village communities, producing themselves what they consume.

If such is your ideal, you will reject modern methods of production and order the closing down of all modern establishments worked with power.

When reliance is placed exclusively on cottage industries and primitive agriculture as means of livelihood, production per *capita* will decrease. You will, therefore, preach the strictest limitation of wants, or indifference to material requisites of well-being.

If, at the same time, you did not take steps to prevent the population from multiplying too rapidly, the standard of living of the masses would sink lower and lower from generation to generation.

Only the maddest of dictators would vote for the destruction of modern apparatus of production that India has gradually built up at considerable cost during the past 100 years. Only the maddest of dictators would fail to utilise the results of invention and discovery to augment national income and wealth.

We assume that you are not antedeluvian in your outlook, nor an enemy of progress and prosperity.

You will be first called upon to make a choice between producers' and consumers' goods. The existing resources may be utilised for the greater production of food, clothing and other articles of daily use.

In that case the output of capital goods will suffer.

The greater production of capital goods will impose

sacrifices on the people, but thereby you will securely lay the foundations of future prosperity. For increasing industrial production you will have to divert surplus labour from agriculture to industries. You will have to train labour for the purpose, and to adapt the whole system of education to new needs. Education, which is aimless and planless at present, would be made subservient to the main object—greater production of wealth.

While you are planning the better utilisation of all resources, human and material, you will not forget that the production of human beings itself in India is unregulated—or, rather, is subject only to Nature's regulation. Human beings tend to multiply faster than the means of living. You will, therefore, if you are a sensible dictator, persuade the people, by educative propaganda, to limit births. A declining population is the terror of certain countries in the West. A declining population would make it easier to solve India's economic problems.

Nor would you forget the distribution of wealth. There is an intimate connection between low wages and inefficiency. Increase in the output of wealth should not enrich a particular, small section of the community alone.

The overwhelming majority of our workers are, however, not employees, but independent workers. To increase agricultural income you will have to rationalise agricultural methods and practices, improve the supply of credit, adjust the level of taxation to the tax payer's capacity and, most important of all, maintain agricultural prices at a remunerative level.

You will also make provision for the future. Research has to be endowed; capital, as it wears out, to be replaced and annual additions made to the stock of capital. Only a short-sighted dictator, one aiming at popularity, would encourage capital consumption.

4. PRODUCTION AND DISTRIBUTION

We are discussing economic activity, which is a consistent whole, piecemeal. This is for convenience of exposition. It is impossible to discuss consumption, produc-

tion, exchange and distribution of wealth all at the same time, without causing confusion. But the reader is again warned that the problems which form the subject matter of this book are inter-connected. One form of economic activity determines and is determined by another.

Goods are produced to meet wants, or consumption determines production. But consumption itself is determined by income, or by the distribution of wealth in a country. Production of wealth is thus dependent on a given distribution of wealth.

Production of wealth is carried out by allocation of factors among different industries. Since factors of production are scarce, as we have seen, if more of any factor is employed in one industry, less of it would be available for other industries. It follows that if the distribution of wealth were altered, the allocation of factors among industries must change.

In the foregoing section we assumed that under a dictatorship a dictator decides what goods will be produced and in what quantities. But dictatorship may conceivably alter the distribution of income, and if it does, the new scale of incomes would largely determine the quality and quantity of the goods to be produced. The dictator's preferences would have to take account of the scale of incomes of the people over whom he held sway.

When incomes are grossly unequal, many classes of goods are produced to meet the wants of the excessively rich, *e.g.*, champagne, Havanas, luxurious cars, expensive scents, and costly jewellery. If accumulation of large fortunes were rendered impossible demand for many articles of luxury would totally disappear. No dictator would insist on producing useless or harmful luxuries when no one was able to buy them.

BOOK III

Exchange

CHAPTER XII

EXCHANGE

The theory of exchange is concerned with the rates at which goods or services are exchanged. In a money economy the theory of exchange is the theory of prices, as values of all goods, including services, are expressed in terms of money. The theory of distribution is a part of the theory of exchange, for rent, wages, interest and profit are prices paid for the services of agents of production. We shall, however, for the sake of clearness, deal with the remuneration of agents of production separately.

When no money is used, the theory of exchange is the theory of barter. The theory of foreign trade explains how rates of exchange are determined in international trade. As we shall see later, the theory of foreign trade differs from the theory of home trade in certain essential respects.

1. COMPETITION

Competition has no special meaning in economics different from the ordinary meaning of the term. Competition has innumerable forms. We are here chiefly concerned with competition among buyers on the one side and sellers on the other. We have already seen that neither all buyers nor all sellers compete with one another. Retailers compete with retailers and wholesalers with wholesalers. When there is competition both among buyers and sellers, competition is two-sided. But sometimes, as at an auction, there is competition among buyers alone. Competition, then, is one-sided. Or there may be several sellers, but only one buyer—a monopsonist. Normally there is competition in both buying and selling.

The reader has already learnt that when buyers and

sellers are in free competition with one another, a commodity is sold at the same price in all parts of a market. No one will buy a book for Rs. 5-4-0 from shopkeeper A, when shopkeepers B and C are selling it at Rs. 5. A will be compelled to sell at the price charged by B and C, or he will sell no book at all until the stock of B and C is exhausted.

In the retail market, however, the same commodity is often sold by different shopkeepers at slightly different prices. This is because we generally patronise a particular shop and do not take the trouble of making enquiries elsewhere. A pair of socks may be sold by shopkeeper A at 4 annas, and by shopkeeper B in the same bazaar at $4\frac{1}{2}$ annas. The higher price is paid by patrons of A generally in ignorance. Competition in the wholesale market is always more perfect than in the retail market. Wholesale buyers, usually, are business men who are buying to sell again at a profit. They are well-informed about price fluctuations by daily newspapers, the telegraph, the telephone, and other means. The same price tends to be paid in a wholesale market for the same commodity at any one time, quantity and quality being the same.

2. BARTER

We asked you to return to your childhood when indifference curves had to be explained. At our bidding return to your childhood once more, to understand barter. Then you were required to state your preferences in terms of combinations of tops and marbles, and we provided you with given quantities of tops *and* marbles. This time we are giving you sugared almonds *or* sweet drops, not both.

Children of 3 or 4 years often barter goods with one another. Search the pockets of a child. More often than not you will find in them broken slate pencils, marbles, pieces of chalk and string, pebbles, cowries, and other odds and ends. And children may be seen effecting exchanges—chalk is exchanged for a piece of lead pencil, pebbles against a coloured picture torn out of an illustrated paper, a toy watch against something else that the child mind covets.

We provide a child D with sweet drops. Another child,

A has almonds. D would be glad to have some almonds, and A some drops. They meet. At what rate or rates would exchanges take place? There is no money. There may be no exchange. Suppose D is not prepared to give more than five drops for an almond, while A would not part with an almond for less than seven drops. No exchange is possible.

But if D is prepared to give as many as 20 drops for an almond while A would be willing to give an almond for as few as four drops, exchange could begin and would give satisfaction to both. But at what rate? All that we can say is that the initial rate cannot be more than 20 nor less than 4 drops for an almond. The rest would depend upon bargaining. If A is older or cleverer of the two, by pretending that he did not care much for drops, he might induce D to give more drops for an almond, but not more than 20. Suppose one almond is given for 12 drops. D will acquire one almond, but has now 12 drops less. A has acquired 12 drops but at the cost of one almond. The marginal utility of almonds to A would rise and of drops to D; the marginal utility of almonds to D and of drops to A will fall.

No further exchange may take place. If it does, D may not be prepared to give more than 10 drops for a second almond. Suppose at this stage the relative intensity of A's desire to get drops is greater than that of D to get almonds. The rate of exchange will then be more favourable to D than to A. A certain number of drops and almonds may change hands at different rates. But as A secures more and more drops, the marginal utility of drops to him will continue to fall, and of almonds, whose stock with him is diminishing, continue to rise. A point will be ultimately reached when the marginal utility of drops and almonds to him becomes equal. He would not then care to exchange more almonds for drops. The same may be said about D, whose stock of drops is reduced by each act of exchange and stock of almonds increased. When barter ceases the marginal utility of almonds and drops will have become equal to both—neither will want to barter any more. But it is possible that one of the two, say, D is keen to acquire more almonds, because the marginal utility of almonds to

him is still slightly greater than that of drops, but A may not be willing to part with any more almonds, the marginal utility of both having become equal to him.

In the beginning, D was willing to give 20 drops for one almond, though he kept that fact to himself. In technical language the marginal utility of his drops to him was $\frac{1}{20}$ of the initial utility of almonds. In the beginning A was willing to give one almond for 4 drops. The initial utility of drops to him was thus $\frac{1}{4}$ of the marginal utility of his almonds.

We cannot say what quantities of almonds and drops would change hands, nor can we predict the final rate of exchange. If A is the better bargainer on the whole, the final result would be more favourable to him. If D gets the better of him in bargaining, a smaller total quantity of drops will be given in exchange for almonds.

A Market.—Let us vary our illustration. We introduce a market. There are many people with oranges, and others with apples, and there is free competition among them. A determinate rate of exchange will emerge, and business will be done only at this rate. Suppose it is four oranges for an apple. No one will give more than 4 oranges for an apple and no one will take less. We assume that every one knows the 'market' rate. At this rate, if you have oranges, you will exchange them for apples until the marginal utility of oranges and apples to you becomes equal. The owners of apples will do the same.

Goods are still bartered in our villages. A village potter brings an earthen vessel. 'What is the price,?' you ask. He answers, 'Fill it up with wheat.'

Foreign trade is really barter. Goods are exchanged against goods, or exports pay for imports, and gold is used for the settlement of balances only. In recent years, the scarcity of gold led many countries to conclude direct barter agreements with one another. In March 1939 Germany bartered railway equipment worth 14 million pesos for Argentine wheat worth 6 million pesos and wool worth 8 million pesos. In the same year Italy arranged two barter deals with Mexico, the first of Mexican oil against three tankers to be built in Italy and the second also of oil against Italian machinery and artificial silk. During 1935 and 1936

one-fifth of German foreign trade was conducted through barter arrangements.

The theory of barter is of use in understanding the theory of foreign trade.

3. IRREPRODUCIBLE GOODS

Most goods even in our villages are bought and sold in terms of money. In towns sometimes old clothes are bartered for utensils, but normally exchanges take place in terms of money.

The goods which are bought and sold may be reproducible, or irreproducible as a rare postage stamp, an original painting, or a rare book. How are prices of irreproducible goods determined?

Marginal utility to the consumer is the sole determinant of value in such cases. Where there is competition among buyers, the highest bidder would secure the article. Books are not sold by auction in India. But auction sales of books are common in Europe. Catalogues of books to be sold are prepared and circulated. Prospective buyers may view the books, which in most cases are divided into lots. Rare books are auctioned separately. On the day fixed for the auction, book-lovers (and dealers) sit round a table in a pleasant room and bidding starts.

If you bid more for a rare book than somebody else, it may be that you can afford to pay more. The same rare article may be sold at different prices at different sales.

In a beleaguered town the price of wheat may rise to any height. Wheat is reproducible, but for that town in siege it has become irreproducible. Marginal utility of the supply would determine its value.

4. REPRODUCIBLE GOODS WHEN THE SUPPLY IS FIXED

Most goods, however, are not irreproducible. The price of an irreproducible good has no relation to the cost, in terms of money, or of labour that was originally undergone in producing it (pain and sacrifice involved in the production of a

commodity or service are known as real cost). Originally a book published in the 17th century in Europe may have sold for the equivalent of one rupee. To-day a copy may not be obtainable for less than Rs. 100, or Rs. 1,000 or more.

The supply of a reproducible good is variable. But very often the seasonal supply of an agricultural commodity like wheat is fixed. Assuming that wheat cannot be imported or exported, the quantity available for consumption during a whole year in India is determined by the crop raised during the year. The season's entire supply, while it is fixed, will not be all brought to the market at any one time. We may therefore distinguish between the *stock* of wheat, which is fixed for the year, and the *supply*, coming out of the stock, which will vary with the price. As market price rises, more wheat will come out of the stock and be offered for sale.

A certain quantity of a commodity is offered for sale. The quantity can neither be increased nor decreased, or the supply is fixed. At what price will it sell?

We have a demand curve, but no supply curve.

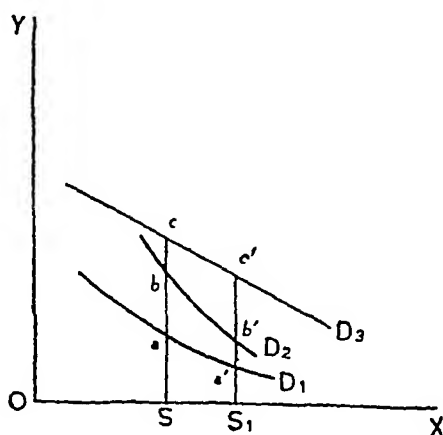


Fig. 35

Fig. 35 shows three demand curves of varying degrees of elasticity. D_3 is a straight line; the elasticity at all points on the curve D_3 is the same, or for a given increase in quantity, measured along OX , the demand price, measured

along OY, will fall at the same rate throughout the entire length of the curve. The curve D_1 is more elastic than D_2 , but the degree of elasticity at different points of each of these two curves is different.

Supply being fixed, we cannot draw any supply curve. A supply curve would show the variation of the amount supplied with price. It presupposes a supply schedule. But there is no supply schedule. Supply is a fixed point on the axis of X, say, S. OS is the supply offered for sale. 'At what price per unit will OS wheat be sold ?

From S we draw a straight line meeting D_1 at a , D_2 at b , and D_3 at c . If D_3 was our demand curve, OS of wheat would sell at CS price per unit. If D_1 represented the demand in a given market, the price will be aS . The supply being given, price is determined by the marginal utility of the supply to the whole body of consumers.

We have said 'the whole body of consumers.' This should be clearly understood. Marginal utility which determines value is not marginal utility to any particular individual. To a rice-eater the marginal utility of wheat is zero. To one who objects to eggs, the marginal utility of eggs is zero. And of two individuals who do not object to eggs, the marginal utility of eggs may be greater to one than to the other. To the same individual the marginal utility of the same commodity or service may be greater at one time than at another. Market price cannot measure marginal utility to particular individuals. An individual, who did not care much for oranges, would not be able to buy 12 oranges for one pice, because one pice measured the marginal utility of oranges to him, when the market price was 6 annas per dozen. I cannot buy apples for nothing by pretending that the marginal utility of apples to me is zero. Market price measures marginal utility to consumers as a whole, or the marginal utility which determines price is social marginal utility. Social marginal utility varies according to the relations between total market demand and total market supply. At any given time the relation between given supply and given demand determines the marginal utility of the supply to the body of consumers taken as a whole, and market price measures this marginal utility. At the price thus deter-

mined, each consumer will buy that amount of the commodity which makes its marginal utility to him equal to the price paid. We remember that money is general purchasing power, and that we tend so to spend our income as to make the marginal utility of money in all its uses the same. ✱

In Fig. 35 the supply curve is non-existent because the supply schedule is non-existent. Let us take another case, illustrated by Fig. 36. As before we measure price

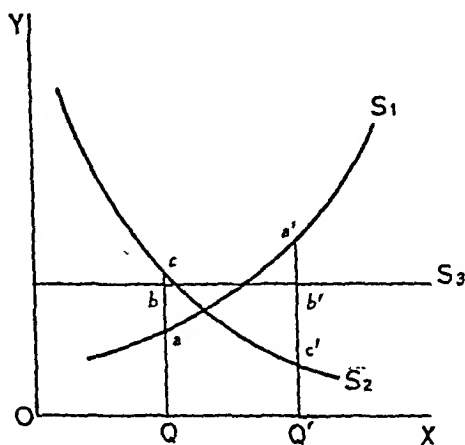


Fig. 36

along OY and quantity along OX. Fig. 36 shows three supply curves, one of which runs parallel with the axis of X. These are cost curves, showing the variation in marginal cost of production as supply increases or decreases. A cost curve should not be confounded with a curve which is merely intended to show that more or less of a commodity would come out of a fixed stock as price rose or fell. In all cases, as market price rose, the quantity offered for sale would increase, or the curve representing the variation of supply with price would slope to the left (an ascending curve). But a cost curve may slope to the right, as we have seen. When an industry obeys the law of increasing returns, marginal cost will fall with the expansion of the industry. S_2 represents this case. S_1 illustrates increasing cost or diminishing returns. S_3 represents an industry in which marginal cost neither rises nor falls with the industry's expansion—the industry is subject to the law of con-

stant cost or constant returns. Marginal cost would neither rise nor fall if, with the expansion of the industry, the tendency to increasing marginal cost was exactly balanced by the tendency to decreasing marginal cost.

In Fig. 36, there is no demand curve. A fixed quantity is demanded, represented by OQ . As there is no demand schedule we are not able to indicate the different quantities which would be bought at different prices.

Demand being given, price must depend on the marginal cost of production for the given amount, or on the slope of the supply curve. If the industry is subject to diminishing returns, and S_1 is the cost curve, (aQ) would be the price. The price would be higher if the commodity were produced under constant costs (bQ) and higher still under decreasing cost (cQ) .

In Fig. 35, if supply were S' , given the demand curves, price would be lower in each case ($c' S'$, $b' S'$ and $a' S'$ respectively). In Fig. 36 if the amount demanded were OQ' instead of OQ , the price would be higher under diminishing returns ($a' Q'$) and lower under increasing returns, $c' Q'$.

5. EQUILIBRIUM PRICE IN A MARKET

Let us introduce both the supply and the demand curve. S in Fig. 37 is a supply curve, not a cost curve, that is, at

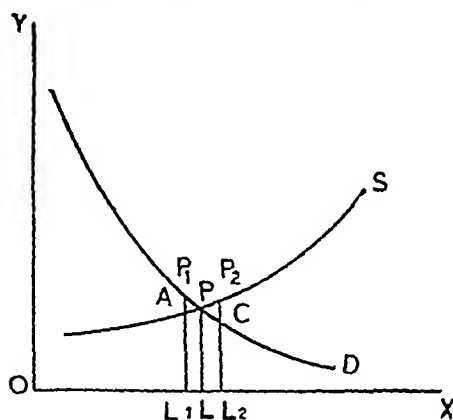


Fig. 37

higher prices more of the commodity would be furnished from the stock—supply increases with price. If the price were PL , OL would be the amount supplied; if the price were P_2L_2 , OL_2 would be supplied. The commodity may have been produced under the law of increasing, diminishing or constant returns. We ignore the technical conditions of production, and fix our attention only on greater or smaller quantities which would be offered for sale at higher or lower prices.

The demand curve slopes to the right in accordance with the law of diminishing utility.

Given both the demand and the supply curve, they must meet at some point. If they do not, buyers are not in touch with sellers, no business is done, and there is no price.

The two curves intersect at the point P . P is a point on both the curves. PL is called the equilibrium price and OL the equilibrium amount.

Why is PL the equilibrium price? It is so called because it equates demand and supply. There is no other point of equilibrium. For OL_1 (OL_1) amount the demand price is higher than the supply price; the amount brought to the market would thus tend to increase. For OL_2 amount, the supply price would be higher than the demand price; the amount supplied must tend to contract. Any departure from OL in either direction would cause a reaction to OL . OL is therefore the equilibrium amount and PL the equilibrium price.

6. MARKET PRICE AND NORMAL PRICE

The market price of a good is the price resulting from temporary, day-to-day, equilibrium of demand and supply in a market. Normal price is long-period price, or price in the long run. Market price may rise and fall from week to week and day to day; it may rise and fall several times in the course of the same day.

On a hot day in the month of June ice may sell retail in Lahore in the morning at 2 pice per seer, rise to one anna in the course of the day and, after a smart shower in the afternoon, fall to 1 pice per seer. On a rainy day

Indian ice-cream (*kulfi*) is not unoften sold at 50 per cent. less than the price usually charged. The price of grapes in Lahore sometimes varies considerably from week to week. Grapes are not grown in Lahore. If, on a certain day, the supply is short, price goes up to nine or ten annas per seer. If, later, heavy consignments are received from Quetta, price comes down to 7 or 6 annas per seer. Fish will not keep. If on a particular day the supply is abundant on account of a big haul, the price falls sharply.

Market prices of perishable commodities like fish and fresh fruits fluctuate more violently than those of commodities like cloth. Cloth remaining unsold one day may be offered for sale next week or next month; not so perishable commodities.

While market prices rise and fall daily, they fluctuate around a certain level. Grapes of a certain quality are sold in Lahore usually at about 8 annas per seer. The market price rises and falls but generally this level is maintained.

The level around which market prices fluctuate is the 'normal' price of a commodity. Adam Smith called it 'natural' price; to Karl Marx it was simply 'value.'

7. WHAT DETERMINES 'NORMAL' PRICE

The fluctuations of market prices are due to the oscillations of supply and demand. When supply exceeds demand, other things being equal, price tends to fall. When demand exceeds supply, other things being equal, price tends to rise. In technical language, when demand exceeds supply, the marginal utility of the commodity rises, and price rises; when supply exceeds demand, the marginal utility of the commodity falls, and the price falls too. We may explain the fluctuations of market prices in terms of marginal utility.

How is 'normal' price determined, or what fixes the level around which market prices fluctuate? Adam Smith's explanation may be first considered. He says: "When the price of any commodity is neither more nor less than what is sufficient to pay the rent of the land, the wages of

the labour, and the profits of the stock employed in raising, preparing and bringing it to market, according to their natural rates, the commodity is then sold for what may be called its natural price."¹

Adam Smith splits up natural price into its 'component parts',—rent, wages, interest and profits. If market price is not sufficient to cover these payments, supply, in the long run, would tend to shrink; if market price exceeds the sum of these charges, supply would tend to increase. Thus there is a tendency of market price to conform to 'natural' price. Adam Smith continues:

"The natural price, therefore, is, as it were, the central price, to which the prices of all commodities are continually gravitating. Different accidents may sometimes keep them suspended a good deal above it, and sometimes force them down even somewhat below it. But whatever may be the obstacles which hinder them from settling in this centre of repose and continuance, they are constantly tending towards it."²

Adam Smith's meaning is perfectly clear. Natural price is price equal to cost of production interpreted as necessary payments for the use of agents of production.

Karl Marx.—Marx's labour theory explains the 'value' of commodities as distinguished from their prices. Marx's conception of 'value' is the same as Adam Smith's conception of 'natural price'.

"The price of a thing," Marx says, "is the money name of the value embodied in that thing." Money (gold) is itself a product of labour. Price may thus be regarded as "the exponent of the value of a commodity." If two quantities of socially necessary labour are respectively represented by 1 quarter of wheat and £2 (nearly half an ounce of gold), then £2, the price of 1 quarter of wheat, expresses the magnitude of the value of the quarter of wheat. But price may rise to £3 or fall to £1. The "possibility of a quantitative incongruity between price on the one hand and magnitude of value on the other, the

¹ *Wealth of Nations*. Book I. Chapter VII.

² *Ibid*.

possibility of a divergence of price from magnitude of value, is inherent in the price form."³ When such divergence occurs, price ceases to be a correct measure of value. Does this mean that prices are never equal to value? No. The different kinds of individual or private labour are continually being reduced to their socially proportional measure:

"How is the reduction achieved? In this way that in the chance and ever-varying exchange relations between products, the labour-time socially necessary for their production exerts its coercive influence like an overriding law of nature. The law of gravity exerts an overriding influence in like fashion when a house tumbles about our ears."⁴

It is impossible to mistake Marx's meaning. While market prices rise and fall, they tend toward a particular level. Market prices are thus subject to an overriding law of nature, like that of gravitation, which makes them correspond to 'value.'

The idea of the level around which market prices fluctuate is explained by an interesting simile by Lapidus and Ostravityanov. When class-work is about to begin, a bell is rung. Boys enter the class-room, some a little before and others a little after the ringing of the bell. "The bell is the point of equilibrium by which the arrival of the pupils is regulated." Norm 1 rule, determined by the expenditure of labour, is the point of equilibrium by which market prices are regulated.

Marx's 'value,' is 'natural' price representing the average amount of social labour necessary under the average conditions of production to produce a certain mass of a certain article. Market price of a good tends to coincide with its 'value' in this sense, but fluctuations in demand and supply cause price to vary from 'value.' Marx is not concerned to explain market fluctuations. His theory of exploitation is based on 'value' as an embodiment of socially necessary labour-time.

* Translation of *Capital*, edited by Cole, Vol. 1. pp. 78-79.

* *Ibid.*, pp. 48-49.

* *Outlines of Political Economy*, pp. 16-17 & 22-23.

Marx borrowed from Adam Smith not only the concept of 'value as natural price,' but also the labour theory. Adam Smith recognises that in a developed community the whole produce of labour does not belong to the labourer, as it does in a primitive state of society. The labourer has to share it 'with the owner of the stock which employs him', or the capitalist. And as soon as land becomes private property, 'the landlords, like all other men, love to reap where they never sowed, and demand a rent even for its natural produce.' But labour, according to Adam Smith, is still the standard or measure of value :

"The real value of all the different component parts of price, it must be observed, is measured by the quantity of labour which they can, each of them, purchase or command. Labour measures the value not only of that part of price which resolves itself into labour, but of that which resolves itself into rent, and of that which resolves itself into profit."⁶

'Natural' price, or Marxian 'value' has thus a clear and definite meaning. It is the price of a good representing a certain amount of labour. Labour, then, is the basis of normal or natural value. Socially necessary labour-time is only a further refinement of the same idea, as we had occasion to remark before.

8. THE LABOUR THEORY IS UNTENABLE

Economics has not stood still since the time of Adam Smith or Marx. Modern economic analysis rejects the labour theory as an explanation of value. There is no writer of any standing, with the exception of fanatical adherents of Marx, who upholds the labour theory.

We do not reject the labour theory because modern economic analysis has no use for it. Modern economic analysis may be mistaken. What are the grounds for the rejection of the labour theory of value?

We have seen that labour furnishes no explanation of the prices of irreproducible goods.

⁶ *Wealth of Nations*. Book I. Chapter VI.

Land is bought and sold like reproducible goods. The high price of land in the centre of a town is not due to labour.

Labour does not explain the *rise of fall* in the prices of reproducible goods. This is admitted by Marx. After a thing has been made with a certain expenditure of socially necessary labour-time, its price may depart far from its 'value' owing to a sudden rise or fall in demand. All that may be reasonably claimed for the labour theory is that if price is much higher than the labour equivalent of a good, its supply will increase, and if price is lower, the supply will decrease, so that, in the long run, price will be measured by labour.

But labour is not of uniform quality.

Marx was a great admirer of the Paris Commune, or the revolutionary government established by workers in Paris in 1870 after German victory at Sedan. All offices under the Commune were 'elective, responsible and revocable.' Further, public service had to be done at 'workmen's wages.' These wages were not high; the highest salary, says Marx, 'barely amounted to one-fifth of what, according to a high scientific authority, is the minimum required for a secretary to a certain metropolitan school-board.'

If all labour were of the same quality, it would be possible to reduce it to the same standard, and to pay every one, if not exactly the same rate of wages, at least wages proportionate to the time spent in labour. Labour, then, would determine all prices. We are reminded of Adam Smith's beaver and deer. All officials can be paid workmen's wages only if the labour of any common workman may be substituted for that of any official.

Difficulties arise if this substitution is not possible. In 1917 Lenin wrote in the *Pravda*: "The salaries of the highest officials should not exceed the average salary of a good worker." Two years later he was willing to pay experts five times more than the ordinary worker, while to-day a Soviet Commissar receives emoluments equal to the wages of a hundred unskilled workers, if not more.

¹ *Civil War in France*, p. 40.

Where quality is different, quantities of labour cannot be made equal. Ten thousand singers with cracked voices are not equal to a single melodious singer. The mechanical labour of a hundred thousand unskilled labourers is not equal in value to the inventive genius of an Edison. Quantity is no substitute for quality.

9. REAL COST AND VALUE

Modern economic analysis seeks to establish a relation between 'normal' price and cost of production, not labour. This cost of production is conceived in terms of money.

Money costs of production determine prices. But when money costs of production of two goods are equal, are we entitled to say that real costs are equal too? We do not know, and we cannot know.

Let us suppose that the normal price of a ton of coal is equal to that of a given quantity of cloth. Who can say that the real costs are equal? We have no means of comparing the labour and pain undergone by miners and that suffered by workers in a cloth mill. Equality of price signifies equality of money costs, not of real costs. *but how many workers*

10. UTILITY AND COST OF PRODUCTION

The importance of utility and cost of production in determining value, according to Marshall, varies according to the element of time. His conclusion is that 'as a general rule the shorter the period we are considering, the greater must be the share of our attention which is given to the influence of demand on value; and the longer the period, the more important will be the influence of cost of production on value.'

In a market the influence of demand or utility preponderates, for market prices may rise or fall below cost of production. In the long period, the influence of cost of production is more important. In the long run the price of a commodity tends to equal its cost of production. This is a dual explanation of value. Marshall does not explain value in terms of utility alone, nor cost alone, whether in

the short or in the long period. Even when we are considering market price, a supply is assumed. The supply blade of our pair of scissors is there, though it is not moving. In the long period, the demand blade must be assumed to be present though cutting is effected by moving the other (supply) blade.

11. COST IN TERMS OF UTILITY

Marginal Utility Theory

Money cost, we insist again, does not measure real cost. If Rs. 100 is paid to a singer for singing for an hour, and this is also the sum that a coolie earns in six months, the real costs of the singer's and the coolie's performance may or may not be equal. We cannot compare them.

But there is another explanation of money costs.

"Possibly," says Wieser in *Natural Value*, "it is the greatest triumph of the theory of marginal utility that it fully explains the obscure conception of costs."⁸

The explanation of cost in terms of marginal utility deserves our careful attention.

Demand for an agent of production or a capital good is indirect. When an agent of production or a capital good serves only one use, its value is wholly determined by the marginal utility of the finished product which it helps to make. For example, take bricks used in house-building, and assume that they cannot be used for any other purpose.

The value of bricks will be determined by the demand for houses. The marginal utility of houses determines the marginal utility of bricks. There is a cost of production of bricks, but it only expresses the demand price of bricks for house-building. If demand for house-accommodation decreased and less houses were built, the marginal utility of bricks would fall, and the demand price for bricks would fall. ²⁷ Firms which cannot reduce their expenses of production below the old price would cease to work. A new cost of production will emerge which, under the changed conditions of demand, will express the new demand price for

⁸ P. 185.

bricks. Demand price and supply price would again be equal. But the new cost of production does not determine the price of bricks—it represents the marginal utility of bricks under the new conditions, or it is an expression for their demand price under the given conditions of reduced demand.

Most capital goods, however, have alternative uses. Iron may be turned into a thousand different finished goods. Of copper we may make wire, works of art or utensils of daily use. To produce a tennis shoe we require labour, machinery or fixed capital, canvas, leather and rubber, each of which is employed in a hundred other uses. The price of a pair of tennis shoes is the sum of the supply prices for labour and capital, and the materials used up in the process of manufacture. How shall we express these supply prices in terms of demand or marginal utility?

The law of substitution or equi-marginal utilities here comes to our help. When a good can be put to different uses, it tends to be so distributed between these uses that its marginal utility in each use is equal. This principle applies to indirect goods as well as direct goods.

Iron may have a thousand different uses, but it will be distributed between these uses in such a way that it has the same marginal utility in all. Given a supply of iron, the marginal utility of iron depends on its demand not for a single but for all uses. Let us represent the marginal utility of a unit of iron, resulting from the relation of supply to demand, by the figure 10. Then it follows that iron cannot be profitably used in any one of a thousand or ten thousand productive processes unless a unit of iron yields marginal utility 10. As Wieser says: "In our example, a unit of iron is estimated to have a marginal utility 10, and therefore no technical transformation of iron is possible which does not replace utility 10, lost through the using up of a unit of iron, by an increase of the product possessing at least the marginal utility 10."⁹

In a steel works the expense incurred on account of iron is an expression for the demand price or the marginal

⁹ *Grandriss der Sozialoekonomie*, pp. 72-73.

utility of iron in alternative uses; that for coal expresses the marginal utility of coal in alternative uses, and so on. The money cost of production of steel thus resolves itself into expressions, in the form of money, of marginal utilities of labour, capital and the materials used in production.

From the point of view of the enterpriser cost means the expenses of production which must be covered by price, but from the social point of view the expense incurred on account of each factor measures the marginal utility of the factor in alternative employments.

12. MONISTIC EXPLANATION

Marginal utility thus furnishes a complete account of value, of irreproducible as well as reproducible goods. The dualistic explanation in terms of utility and cost gives place to the monistic explanation in terms of utility alone.

The explanation of value in subjective terms given above was elaborated by Menger, Wieser and Boehm-Bawerk before the beginning of the 20th century.

We may give one or two further examples to elucidate the interpretation of money cost of production in terms of marginal utility.

The normal price of wheat is Rs. 3 a maund. Why? The answer usually given is that if the long period price of wheat were less than this sum, cost of production would not be covered. If the price rose to Rs. 4, production of wheat would expand at the cost of alternative crops, and price would tend to fall. Rs. 3 then is the centre towards which the price of wheat in its ups and downs would tend to gravitate.

Let us analyse this cost of production. It consists of various payments, e.g., interest on capital, upkeep of bullocks, price of seed, wages of hired labour and profits of enterprise. It is clear that if the rates of these payments increased, the cost of production would rise; if the rates were lower, the cost of production would fall. We are therefore forced to enquire why the rate of interest is what it is, why bullocks and agricultural implements command certain prices, why payments to hired labour, whether in

money or in kind, are what they are. To explain the price of wheat it is necessary to explain the rates of all payments that have to be made in order to produce a given quantity of wheat.

Suppose our land was irrigated by means of a well. Then interest on the capital cost of the well, depreciation and repairs, and the cost of working the well must be included in the cost of production of wheat. Why was a certain cost incurred in building the well? Why did it not cost more or less to build it? The answer again is that specific payments had to be made for materials and services used in its construction. Bricks and mortar have alternative uses. To withdraw them from other uses, certain prices had to be paid. Carpenters and masons are also employed in building houses and factories. To withdraw them from alternative employments certain rates of wages had to be paid.

In the last resort the money cost of production of a crop is the sum of payments made to factors of production in order to withdraw them from alternative uses.

Each of these payments measures the marginal utility of the factor concerned in all its uses. Marginal utility is higher when a factor is more scarce relatively to the total demand for it than when it is less scarce. Of two factors, the one which is relatively more scarce will command a higher price. Add up the money equivalents of marginal utilities of the factors of production employed, and you get the money cost of production of the good in question.

The long period price of cloth is made up of payments made for the factors used in producing a given quantity of cloth. Each of these payments measures the marginal utility of the factor concerned.

Thus money cost has a definite meaning. It is an expression for the sum of marginal utilities of the factors of production employed.

In terms of utility there is only one, unified explanation of value in all its forms. The explanation in terms of utility makes no distinction between reproducible and irreproducible goods, between land and a pair of shoes, between market prices of goods, and their prices in the long run. Given the supply, marginal utility determines

value. Technical conditions determine the amount of supply. If the cost is rising, it is because relatively higher payments have to be made for factors of production on account of their rising marginal utility ; if the cost of production is falling, marginal utilities of the factors concerned are declining.

CHAPTER XIII

EQUILIBRIUM OF SUPPLY AND DEMAND

Having learnt that cost of production is merely an expression for the marginal utilities of factors of production in alternative employments, we proceed to consider the equilibrium of supply and demand in the long period.

1. PRICE IN THE LONG PERIOD

Fig. 37 (see p. 225) shows a rising supply curve. Let us call it a cost curve, or for S we substitute C . It has been explained that market supply coming out of a stock would always tend to increase with a rise in price, or the supply curve must slope to the left. A cost curve which slopes to the left would indicate rising marginal cost with increasing output. When we turn the supply curve in Fig. 37 into a cost curve it would relate to an agricultural commodity produced under the law of increasing cost, say wheat. Fig. 37 would then illustrate the equilibrium of demand and supply of wheat in the long period, and PL would be the equilibrium price of wheat in the long run.

In Fig. 38 the cost curve slopes to the right, as also the

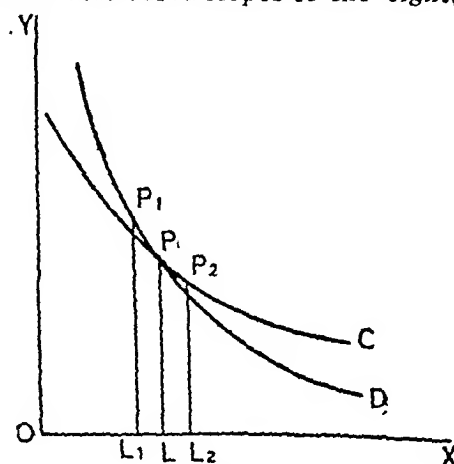


Fig. 38

demand curve. PL is the equilibrium long period price, say,

of cloth. Contraction of output would raise the demand price above the supply price, and expansion of output beyond OL would cause loss. Therefore the long period price of cloth would tend to settle at PL .

Fig. 39 illustrates the conditions of equilibrium when the

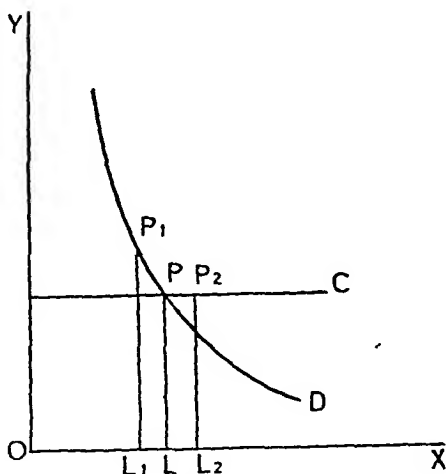


Fig. 39

commodity obeys the law of constant returns. PL , again, is the equilibrium price, for departures from it in either direction would be followed by movements which would tend to re-establish PL as the equilibrium price.

In all the three cases considered, there is only one position of stable equilibrium. But the supply and the demand curve may intersect at more than one point. This will give us several positions of equilibrium. Let us consider the points b , c and e in Fig. 40.

As before we measure the quantity of a commodity along OX and price along OY .

The point e indicates a position of completely stable equilibrium. If the output were less than Oe' , demand price would be higher than supply price (marginal cost) and the industry would tend to expand. Thus there is a reaction towards Oe' . The increase of supply beyond Oe' would cause loss because marginal cost would be higher than demand

price. There will be a reaction back to the output Oe' .

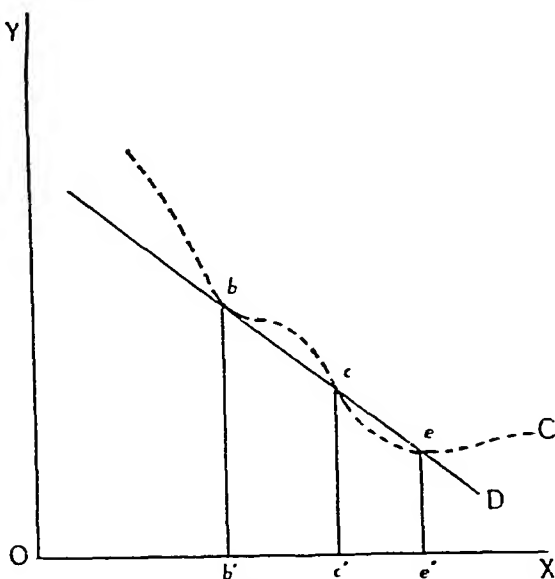


Fig. 40

Next consider the point C. For an output less than Oc' , marginal cost would exceed the demand price, and the industry would contract. For an output greater than Oc' the demand price would exceed marginal cost. In neither case would there be a reaction to Oc' . C, therefore, is a position of completely unstable equilibrium.

b is a position of partial stability and partial instability. If the output tended to increase beyond Ob' , there would be a reaction Ob' , as marginal cost would exceed the demand price. But for an output less than Ob' , there would be no reaction to Ob' . The industry would go on shrinking.

2. CHANGES IN THE CONDITIONS OF DEMAND AND SUPPLY

Over a long period a change may occur in the conditions of demand. An increase in demand, as the reader has already learnt, is shown by drawing a new demand curve, illustrating a new demand schedule, over the old demand curve; and a decrease in demand by drawing a new demand

curve below the original demand curve. In Fig. 41 the new equilibrium price is lower than the old price.

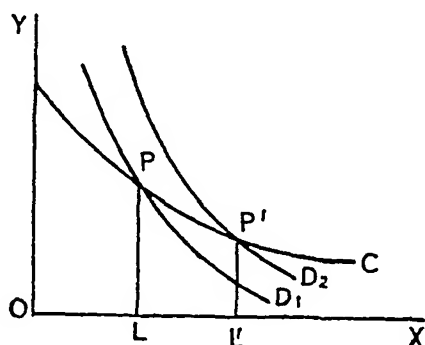


Fig. 41

In Fig. 42 the new equilibrium price is higher than the old price. This diagram would illustrate a rise in the long period price of an agricultural product obeying the law of diminishing returns.

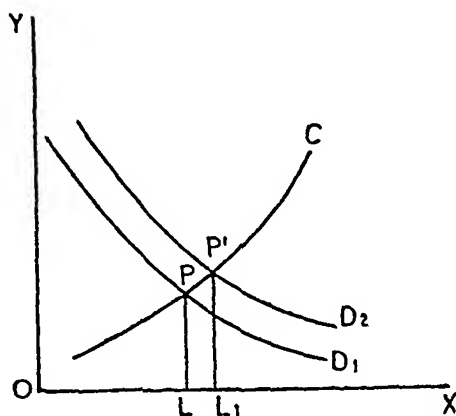


Fig. 42

In Fig. 43 the cost curve neither rises nor falls and the new equilibrium price is neither higher nor lower than the old one. It would be incorrect to distinguish this case from others by saying that the price, when production is subject

to constant returns, is determined by cost of production alone, and that the function of demand is merely to deter-

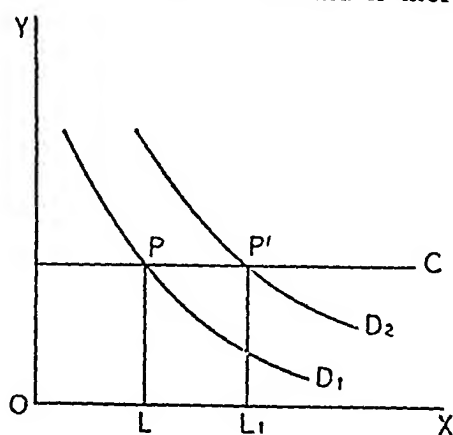


Fig. 43

mine the amount to be produced. In every case, cost of production in terms of money merely expresses the marginal utilities of various factors of production in alternative uses.

Demand may be taken as given and conditions of supply may be supposed to vary. In Fig. 44 the new supply curve

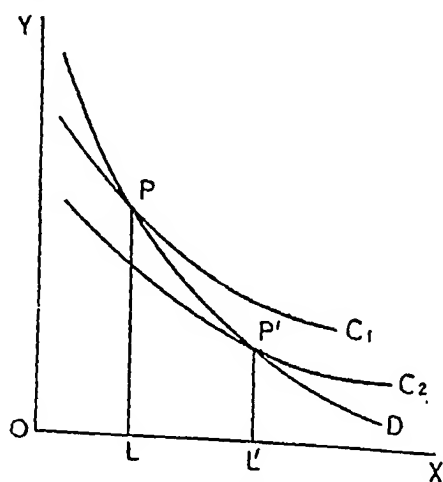


Fig. 44

is C_2 . The new equilibrium price is $P'L'$. The new price measures the marginal utility of the increased supply.

If supply decreased C_1 would be the new position of the supply curve, and the new equilibrium price would rise from $P'L'$ to PL .

In the case of a commodity obeying the law of diminishing returns (Fig. 45), price would fall with the growth of

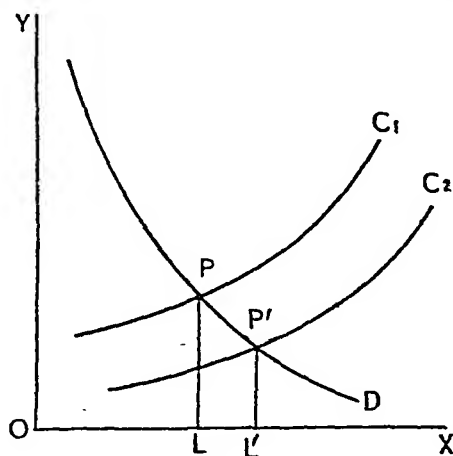


Fig. 45

production but not so much as in the case of a manufactured good.

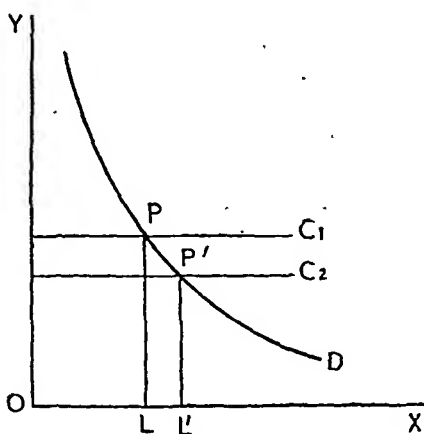


Fig. 46

If the commodity obeyed the law of constant returns, while increase or decrease in demand does not bring about a

change in price, an increase or decrease of supply, demand remaining unchanged, would establish a new equilibrium price. (See Fig. 46).

3. SUB-NORMAL PRICE

The sub-normal price of a good may be distinguished from (a) its market price and (b) its long period price.

Sub-normal price is price in the short period. Market price is also short period price, but it has an entirely different meaning from sub-normal price.

In discussing market equilibrium cost of production is not taken into account. The supply which is offered for sale comes out of a stock. There is no time to produce more in case of increased demand, and there is no time to adjust supply to a reduced demand by diverting factors of production to other uses.

But suppose there is time to alter the supply. Let us assume that the demand for ice increases in Lahore on account of a permanent rise in temperature. Attempts will be made to increase the supply. But how? Will more factories be built, more and larger ice-making plants installed, and more labour trained for this industry? Time is required to build factories. And we do not manufacture ice-machinery. Orders will have to be placed in foreign countries for new plants and equipment. It may take two or three years before the industrial rearrangements needed to meet the increased demand are completed. In the meantime more ice would be made with the existing factors of production. Plants would be worked to their full capacity; extra labour would be engaged; over-time may be worked. In the long run the price of ice may be expected to fall, but in the short period the sub-normal price of ice will in all probability be higher than before.

In the case of a fall in demand, industrial rearrangements will take place in the long period which may begin but cannot be completed in the short-period. The sub-normal price may fall below cost of production. In the long period supply would be adjusted to demand through the disappearance of many firms, and there would be few new

entrants into the industry. Price in the long run would cover cost of production, including both supplementary and prime costs. But in the short period, under conditions of competition, contraction of production would be relatively small, particularly when demand is not expected to revive. Gradually the industry would shrink until a new position of equilibrium was reached.

4. EQUILIBRIUM CONSTANTLY CHANGES

We have discussed the equilibrium of demand and supply in short and long periods. The idea of equilibrium is important in that a price, whether in the short or in the long period, is always the product of an equilibrium. But the reader should get rid of the idea that an equilibrium of demand and supply is something fixed or permanent. PL, the equilibrium price in the figures we have studied, is a constantly changing price. If less than OL, or more than OL was produced, there would be a reaction to OL provided other things remained equal, i.e., provided the demand curve and the supply curve did not change. But in the real world demand and supply curves change as soon as we have drawn them. When an old equilibrium is disturbed, a new equilibrium is produced, but no one can predict the new equilibrium price.

Suppose the demand for cotton cloth increases. Price will rise and a whole group of forces will be set in motion. The cloth industry would tend to expand by attracting capital and labour from other industries. But who can say where the price of cloth will settle in the long run? Technical improvements in the industry will tend to bring down cost and, if other things were equal, price would fall. But growth in the foreign demand for our raw cotton may raise its price; growing strength of labour-unions may raise wages; fiscal necessities of the Government may lead to the reimposition of the cotton excise. Who can estimate, with certainty, the net result of these changes? Further, conditions of foreign competition may alter—more or less cloth may be imported from foreign countries; there may be a change in the use of substitutes, e.g., artificial silk or *khaddar*

may grow more or less popular. While the organisation of the cotton mill industry is being adapted to meet new requirements, the very cause which necessitated the change may cease to work, or gain or lose in force.

Long period results belong to an imaginary world, a world of abstractions. They are never exactly realised; they only tend to be realised.

✓ 5. PRICE AND MARGINAL COST

Price tends to be equal to marginal cost. But whose marginal cost? There may be hundreds or thousands of businesses in an industry, each with a different cost curve. Whose marginal cost determines price in the long run?

Let us first take a commodity obeying the law of diminishing returns, wheat.

All farmers do not work under equally favourable conditions, and their marginal costs cannot be equal. Some farms would be more fertile than others; some would be better situated with respect to the market than others. A certain quantity of wheat is required to meet a given demand. A particular farmer would be marginal for that quantity. Let us call this farmer M (there may be more than one marginal farmer). The cost of production on M's farm is the highest, but if the demand cannot be met without M's wheat, M must contribute to the supply, and the price must be high enough to cover the cost production, per unit of output (per maund) of M's wheat. All other farmers would sell at the same price, and since their cost per unit of output is lower, their profit will be greater.

The position of the margin is not fixed. If demand decreased, M's output may not be required. M would then disappear below the margin—he would be lost in the crowd of sub-marginal farmers N, O, P, etc. whose cost per unit of output is higher than the market price, and who, therefore, cannot exercise a controlling influence on price. When demand declines, L or K may become the marginal farmer. The margin of cultivation would then be said to rise.

Fig. 47 shows the farmers from A to P ranged in a vertical line, one under the other. A fall in demand would

raise the margin of cultivation by removing M. If methods of cultivation improved so that the output of farmers above M increased, demand remaining the same, M would again disappear, and the margin of cultivation rise.

If, on the other hand, demand for food increased, so that it could no longer be met by farmers A to M, price would rise, and the farmers N, O, and P may find it profitable to grow wheat for the market. The margin of cultivation would then fall. Its exact position would depend on the quantity demanded. If the total demand cannot be met without P's output, the margin of cultivation would sink to where P stands. Cost of production which determines the price of an agricultural product obeying the law of increasing cost or diminishing returns is the cost of production of the farm which is marginal for the given output.

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

Fig. 47

Let us, next, study the influences which determine the price of a manufactured good.

At any given time a certain number of firms are engaged in the production of a commodity. Suppose the industry is hosiery, and the firms are A to P. Now all these firms are not equally efficient. For example, N and O may be decaying firms, which will sooner or later disappear. P is a new firm, which is not firmly established in the industry—it has not yet found its feet. (N, O and P, then, would exercise a negligible influence on price. The others are mature firms. We may call them 'normal' firms.) The cost curves of all the normal firms would not have the same shape. For a given output, the marginal cost of some firms would be higher than that of others. Let us suppose that M is the marginal firm among these normal or mature firms for a weekly output of 10,000 lbs. of hosiery required to meet the demand. Then the price must be high enough to cover the cost of production, per unit of output, of the firm M. At any given time, then, price must be equal to the cost per unit of output of the marginal normal firm.

We include remuneration for the employer in cost of production.

If, at any given time, the price of hosiery did not cover

the cost per unit of output of the marginal normal firm, this firm could not contribute its quota to the output, and price would rise. If price was higher than this cost, supply would increase, and price would fall. At any given time, then, for a given output, price would tend to equal the cost per unit of output of the marginal normal firm.

The price having been thus determined, every firm would tend to increase its output until the marginal cost in every case was equal to price. Why? The reader should refer to Fig. 30 (see p. 174). A and B are cost curves of two firms, showing how marginal cost rises with the growth of each firm's output. Let us assume that price is equal to Op , which is the cost per unit of output of the marginal normal firm. Then firm A can increase its output up to Oe , but not beyond, and firm B may produce a maximum output equal to Of , but not more. If A produced more than Oe , and B more than Of , marginal cost in each case would exceed price and cause loss.

Theoretically marginal cost in each firm would be equal to price. Actually the equalisation of marginal cost and price in each case is possible only on the assumption that each firm is able to enlarge its output by very, very small, perhaps infinitesimally small increments. It may not be possible to add to output except in units of large size. A firm may not be able to make its marginal cost equal to price, to satisfy the requirements of economic theory, by producing an additional ounce of hosiery per week.

Further, we cannot regard price, or demand, or technical conditions of production as fixed, as we have said above. Even as the better organised firms enlarge their output, the conditions of supply and demand may change. If there had been no change, possibly firm B may have equalised its marginal cost and price by attaining the output Of . Under the new conditions the equilibrium output for B may be more or less than Of . While every firm will increase its total profit by making its marginal cost equal to price, no firm may succeed in actually doing so. What tends to happen is not what actually happens in the long run.

The 'normal' price of a manufactured good tends to fall with increase in demand. At any time, cost per unit of

output of the marginal normal firm must have a decisive influence in determining price, as we have explained, but, in the long run, the better organised and more efficient firms play a more important rôle. They are better able to realise the economies of 'scale.'

The conclusions stated above are based on deductive reasoning, unaided by any inductive examination of facts. One wishes that material were available for a statistical study of the problem. No Indian material exists, and it could not be collected except through official agency. Writers on economic theory generally care little for a statistical analysis. And New Economics, particularly, talks of inductive studies with ill-concealed contempt.

As a warning to the reader that the conclusions reached by marginal analysis may not correspond to reality we may quote the following passage:—

"We used to be told, 'Price is governed by the cost of production of the marginal producer.' Who is he? 'He is the producer who makes no profit—that is, whose cost of production is equal to the price.' Such a statement needs no verification and tells nothing which could be verified. In place of this, inductive studies make their statements in some such forms as this: 'Price is commonly such that from ten to fifteen per cent. of the output is produced at greater cost and the rest at less.'¹

If that is so, it would be wrong to lay too much stress on the point, as New Economics does, that the marginal cost of every firm tends to equal price. In how many cases is it actually equal to price? No one tells us that. Once more, a 'tendency' in any direction is not equal to the realisation of a fact. I may be ever 'tending' to grow wiser and wiser, and yet remain a fool to the end of my days.

6. JOINT SUPPLY AND JOINT DEMAND

So far we have been concerned with goods which are independently produced and independently demanded. But, as we have seen, goods are also jointly demanded. The

¹ *The Trend of Economics*, edited by R. G. Tugwell, p. 77.

demand for a pair of spectacles is a joint demand for lenses and a frame, for the frame is useless without the lenses, and lenses are not of much use without a frame. Goods are also jointly produced, *e.g.*, gas and coke, wool and mutton, or wheat and straw.

In the case of goods jointly demanded in fixed proportions (two lenses and one frame for a pair of spectacles or one lense and a frame for a monocle), there is only one demand curve, but two cost curves.

In Fig. 48 we represent the demand for monocles by the demand curve D . Money is measured along OY , and quantities of monocles, or frames, or lenses along OX . C_1 represents the cost of production of monocles, and C_2 that of frames.

The demand is for the complete article, monocles. The price must cover the cost of production of the component

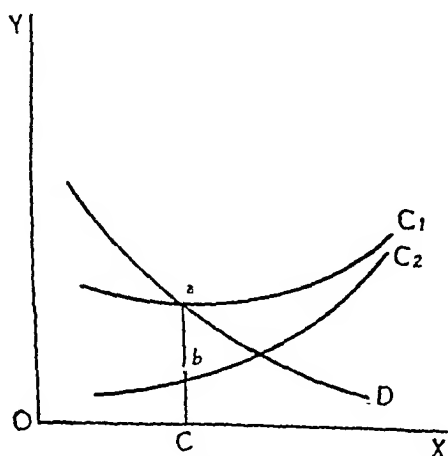


Fig. 48

parts. Suppose OC is the quantity of monocles demanded at aC price per unit. Since a is also a point on the supply-curve for monocles, OC units will be supplied at aC price—demand and supply are in equilibrium. The cost curve for frames cuts the line aC at b . For OC frames, then, bC is marginal cost of production. It follows that ab is the supply price for OC lenses.

Cost of production of either lenses or frames may

change, in which case we shall have to draw another supply curve for monocles, or the complete article. Price in the long run must be high enough to cover the separate costs of production of the goods jointly demanded.

In the case of goods jointly produced, *e.g.*, wheat and straw, there is only one cost of production. Wheat cannot be produced without straw, though straw is produced also with other crops. The cost of production jointly incurred for wheat and straw must, in the long run, be covered by the separate demand prices for wheat and straw. If straw became cheaper, the farmer would depend on the price of wheat to cover the total cost of producing wheat *plus* straw.

In Fig. 49 we have only one cost curve, *C*, but two demand curves. Units of money are measured along *OY* and units of wheat *plus* straw are measured along *OX*. *D*₁ shows the demand schedule for wheat *plus* straw and *D*₂ for

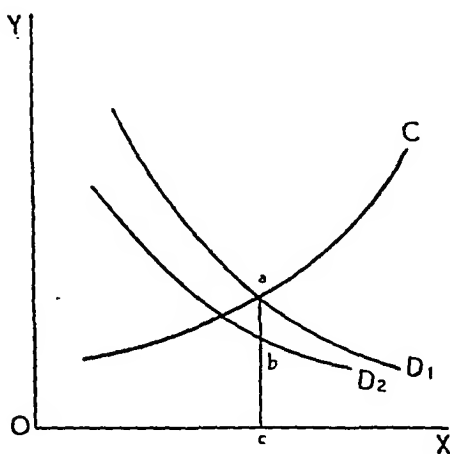


Fig. 49

wheat alone. When *Oc* quantity of wheat *plus* straw is demanded at *ac* price, demand and supply are in equilibrium, for *a* being a point on the supply curve, *Oa* quantities of wheat *plus* straw will be offered for sale at the same price. *D*₂ being the demand curve for wheat, the total demand price *ac* consists of two parts, *bc* for wheat and *ab* for straw.

7. ALTERNATIVE DEMAND AND SUPPLY

If ice-cream may be substituted for *kulfis*, and *kulfis* for ice-cream, the ratio between their prices would tend to be maintained, for the cheapening of one relatively to the other would increase the demand for the cheaper article. Tea and Coffee are not exact substitutes in India—certain provinces prefer tea and others coffee; in the Punjab, at present, the cheapening of coffee would not lead a great many people to substitute coffee for tea. But there is keen competition between various brands of tea. Two or more brands of tea or cigarettes are not necessarily sold at the same price, but the ratio between their prices does not vary much.

Recently the price of certain brands of imported cigarettes has increased sharply on account of the exhaustion of stocks which cannot be easily replenished. The result is the substitution of other brands of cigarettes for those which have become more expensive.

8. COMPOSITE DEMAND AND SUPPLY

We have already seen that the total market demand for a commodity at any given time is compounded of the demands of individual buyers, who may be persons or firms. The commodity demanded may be used for the same or different purposes. There is a direct demand for milk, and it is wanted by confectioners for the manufacture of sweets.

Market supply is also composite, or compounded of supplies from different sources. The total supply of milk in Lahore is compounded of supplies furnished by individual cow-herds, and private and Government dairy-farms.

CHAPTER XIV

THEORY OF MONOPOLY PRICES

The theory of prices under monopoly is different from the theory of prices under competition. As we have seen, under conditions of competition the price of a manufactured good at any given time would tend to equal its marginal cost of production, which we have defined as the cost of production per unit of output of the marginal normal firm. We have also seen that every other firm, whose cost of production per unit of output is lower, tends to expand its output until marginal cost in each case is equal to price.

1. THE AIM OF MONOPOLY

A monopolist as monopolist is interested in maximising his profit. His problem is to find an output which will give him the greatest amount of profit. This output will generally be less than the quantity for which his marginal cost is equal to price.

A monopolist can control price or output, but not both. Suppose you are granted the monopoly of supplying your town with electricity. If you have decided to produce a certain amount of electrical energy per week, you cannot say at what price per unit you will be able to sell the whole amount. The price depends on the general body of consumers. The whole of the supply may be consumed, but at a very low price. Having determined the supply you cannot determine the price. If, on the other hand, you have decided to sell electricity at a given price, say 8 annas a unit, you cannot fix the amount which consumers will buy. The decision belongs to consumers. If you were able to fix both the price and the output, you would very quickly become the richest man on earth. Why, if you could compel people to buy 10,000 units of energy daily at Rs. 100 per unit, gross receipts would amount to Rs. 1,000,000 daily and assuming that cost of production was not more than 2 annas per unit,

your profit would be enormous (we assume that consumers possess the means of paying the impossible price).

It being impossible for the monopolist to control both output and price, he will try to estimate how demand price would fluctuate for different quantities of the output. He may be producing under constant, increasing or decreasing cost. If his marginal cost falls with increasing output, he would tend to produce more, for thereby he would reduce the cost per unit of output. But a larger output also means a lower demand price per unit.

2. MARGINAL REVENUE

Monopoly profit may be defined as the gain of the monopolist over and above what he would earn under conditions of competition. Price under competition tends to be equal to cost. Monopoly profit therefore is the excess of the monopolist's gross receipts over his cost of production.

New Economics is responsible for the term 'marginal revenue.' The gross receipts of the monopolist may be called his 'total revenue.' Up to a point total revenue will increase with growing output. The addition made to total revenue by incrementally enlarging the output is called 'marginal revenue.' Beyond a certain point marginal revenue may become zero or negative.

Marginal cost is the addition made to the monopolist's total cost by incrementally enlarging the output. The most profitable output of a monopoly is that for which marginal revenue is equal to marginal cost.

Let us take an example :

Daily output	Price per unit	Total revenue	Marginal revenue	Total cost	Marginal cost	Monopoly profit
10	Rs. 60	Rs. 600	Rs. ...	Rs. 520	Rs. ...	Rs. 80
11	59	649	49	552	32	97
12	58	696	47	584	32	112
13	56	728	32	616	32	112
14	52	728	0	648	32	80
15	48	720	-8	680	32	40

most profitable output is 12 units
 Profit = 112

Suppose the monopolist is producing bicycles. For different daily outputs his total cost is different, but marginal cost is assumed to be the same, that is the addition made to total cost by producing an extra unit, or one bicycle, is the same, i.e., Rs. 32. When ten bicycles are produced daily, the added marginal costs would be Rs. 320; we allow Rs. 200 for supplementary costs, or fixed charges. When 11 units are produced, there is no addition to fixed charges, but prime costs increase by Rs. 32, so that total costs are Rs. 552 and so on.

Demand price falls as output increases. The monopolist cannot control it. He can sell at a higher price only by reducing output.

Marginal revenue steadily falls as output increases. For 14 units marginal revenue is zero, and for 15 units negative.

For 13 units marginal revenue is equal to marginal cost. No other output will give the monopolist greater monopoly profit—Rs. 112.

But there is also another position of equilibrium. The monopolist may produce 12 units daily, sell them at Rs. 58 per unit, and earn a profit of Rs. 112.

3. EQUALISING MARGINAL REVENUE AND MARGINAL COST

There is a further point to be noted. The table has been so constructed that for an output of 13 units marginal revenue and marginal cost are equal. But they need not be equal. The monopolist cannot fix the price for an output of 13 units at Rs. 56 per unit. This is not in his power. The price may well be Rs. 55. If for a daily output of 13 units the price was Rs. 55, total revenue (gross receipts) would fall to Rs. 695, and marginal revenue would be *minus* Re. 1. The monopolist would in that case fix the output at 12 units daily and earn a maximum profit of Rs. 112. There would be only one point of equilibrium and at that point marginal cost would be lower than marginal revenue.

Theoretically the monopolist would increase his profit by producing more until marginal revenue became equal to marginal cost. But he cannot vary his output in units of

less than one. With Rs. 55 as demand price for 13 units the monopolist would lose by expanding his output.

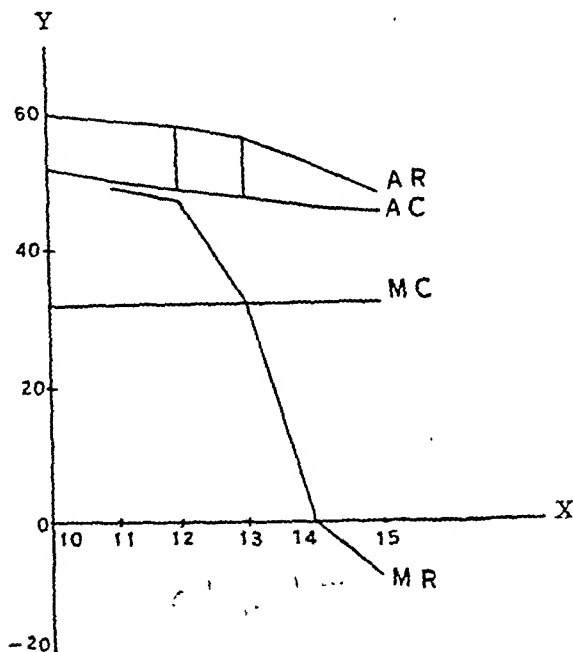


Fig. 50

In Fig. 50 we measure the output along OX and money along OY. AR in the diagram is the average revenue curve—it represents price per unit at which the output is sold. For example, 10 units are sold at Rs. 60 per unit, 12 units at Rs. 58 per unit, and so on.

AC is average cost curve. The total cost for 12 units is Rs. 584, and therefore the cost per unit is Rs. 48'7. Profit per unit (or monopoly profit) is the difference between average revenue, or demand price per unit, and average cost or cost per unit of output. Total profit for any output is found by multiplying the difference between price and cost per unit by the quantity sold.

For 13 units the marginal revenue curve is seen to coincide with the marginal cost curve, which is a straight line. Total cost and total revenue have not been shown in the diagram.

In the example just considered marginal cost was assumed to remain constant for all quantities of the output. But marginal cost may not be constant; it may at first fall and then rise :—

Daily output (Motor Cycles)	Price per unit	Total revenue	Marginal revenue	Total cost	Marginal cost	Profit
	Rs.	Rs.		Rs.	Rs.	
10	400	4,000	...	1,000	...	3,000
11	380	4,180	180	1,078	78	3,102
12	355	4,260	80	1,116	38	3,144
13	320	4,160	-100	1,144	28	3,016
14	280	3,920	-240	1,260	116	2,660
15	230	3,450	-470	1,425	165	2,025

Twelve units, sold at Rs. 355 per unit, would yield the maximum profits, Rs. 3,144. For 12 units marginal revenue is Rs. 80 and marginal cost Rs. 38. Assuming that the output cannot be increased in units of less than 1, marginal cost and marginal revenue cannot be equalised, for, given the demand price for 13 units, Rs. 320 per unit, increase in output would reduce aggregate profit, and marginal revenue would be negative.

In theory, again, it is easy to equalise marginal revenue and marginal cost. The monopolist has only to find the output for which marginal revenue and marginal cost are equal, and he has found the position of maximum profit. In real life the thing is not so simple.

It may be conceded that so long as marginal revenue exceeds cost, there is profit in increasing the output. If marginal revenue for a given output is Rs. 30 and marginal cost Rs. 28, more may be produced. The limit is the point where marginal revenue and marginal cost are equal; increase in output beyond this point would cause loss. We remember how, under competition, every firm tends to increase its output until marginal cost is equal to price. But an infinitesimal increase in output is possible only in imagination, and without assuming the possibility of such increase the statement that under monopoly that output is produced for which marginal revenue is equal to marginal cost has no meaning.

We may give a simple illustration to explain our meaning. Price measures marginal utility, and given the market price of a commodity, every one buys that amount of the commodity for which the marginal utility of the commodity to him becomes equal to price. But the equalisation of price and marginal utility is only possible on the assumption that it is possible to buy the commodity in such small quantities as would equalise price and marginal utility. We may be wrong in making that assumption. For example, a big family may require a number of bicycles. Suppose the marginal utility of bicycles to the family varies as shown below.

Bicycles	Total Utility	Marginal Utility
1	100	100 = Rs. 100
2	190	90 = Rs. 90
3	260	70 = Rs. 70
4	300	40 = Rs. 40
5	320	20 = Rs. 20

The utility of the first bicycle to the family is measured by Rs. 100, of the second by Rs. 90 and so on. Suppose the price of a bicycle is Rs. 80. How many bicycles would the family buy? Not more than two. The utility of the 3rd bicycle is less than the price that would have to be paid for it. But, with two bicycles, the family has not been able to make marginal utility equal to price. They will remain unequal until the price falls to Rs. 70. Bicycles are not sold in parts, and a handle or a wheel by itself would not be of very great use for riding purposes. An economist, obsessed with the idea of equalising marginal utility and price, may seek a solution of the enigma by hiring a third machine for a few days or hours in a month, but most families would try to get along with two machines only.

4. PRICE DISCRIMINATION

So far we have assumed that a monopolist sells his output at the same price to all consumers. But he may charge

discriminative prices. Price discrimination is commonly practised.

Price discrimination may be (a) personal, (b) based on income, (c) according to trade, and (d) local.

Price discrimination is personal when more is charged from one person than another for no other reason except that he will pay the higher price. But personal price discriminations will not make the monopolist more popular. The same retailer sometimes sells the same brand of cigars at different prices to different consumers. Some customers are inclined to haggle; others quietly pay the price demanded. Knowingly very few people would pay more for a thing than what others were paying.

An example of income discrimination is furnished by school fees. For the same instruction scholars are charged fees according to different scales. Discrimination is based on parents' income.

The same 'elixir' is sold by Indian *vaid*s and *hakims* to Rajas and Maharajas and the common people at widely different prices. The difference in packing does not wholly account for the difference in price.

A practising physician often charges different fees from different classes of patients. The usual fee, let us say, is Rs. 5, but the doctor accepts whatever fee is offered to him. The patient, knowing that the fee is Rs. 5 (the doctor tells him), is glad to find that the doctor has accepted Rs. 2. 'What a good man!' he says. But in rendering the same service to poorer patients at a cheaper rate the doctor is also maximising his income. If he charged the same fee from all patients his practice would suffer, which is neither good for him nor for his patients.

Income discrimination is frequently resorted to by publishers. The first edition of a book is issued at 20s. and a few months later there is a cheap edition at half the price. At the end of the year, or later, the original edition is sold as 'remainders' at about one-third of the original price. When issuing the original edition the publishers know that all copies would not be sold at the price fixed. Their total profit is maximised by selling the book at different prices to different classes of readers.

The best example of trade discrimination is furnished by the railway. The railway sells transportation at different rates to the coal and the silk trade. If coal and silk were charged the same average rate, coal could not be carried at all, while the rate would be too low for silk. Silk can bear a high rate, and therefore it is charged a high rate.

It is doubtful if an 'inter'-class passenger always travels in greater comfort on Indian railways than a third-class passenger, but 'inter' fares are 50 per cent. higher than third class fares.

Local discriminations in price cannot ordinarily exceed the cost of transportation between two places. If the Indian cement merger began to sell cement at prices which differed by more than the cost of transportation of cement between two places, there would be profit in buying cement in one place at the lower price and selling it in the other at the higher price.

Similarly the price of a good which may be freely exported and imported cannot differ in two countries by more than the cost of transportation. Suppose an Indian monopolist is selling shoes at 5 rupees per pair in India. He wishes to capture the Afghan market and is prepared to sell shoes at a lower price there. Assume that the cost of transportation is Re. 1 per pair. The lowest price at which he can sell a pair of shoes in Afghanistan is Rs. 4. If he charged a lower price, say Rs. 3-8-0, any one in Afghanistan may make a profit of 8 annas per pair by sending the shoes back to India and selling them here at Rs. 5. If India levied a duty of annas eight per pair on the import of shoes, the foreign price may be below the home price by the cost of transportation *plus* the duty levied on imports. The lowest price at which the monopolist may sell in Afghanistan in this case would be Rs. 3-8-0.

7. DUMPING

When a monopolist sells goods abroad at a price below cost of production, he is said to be 'dumping.'

Dumping of surpluses is common. If the output exceeds home demand, it can be disposed of only by lowering the

price. But thereby the home market is 'spoiled'; it will become difficult to charge a higher price later. The monopolist may, therefore, try to sell the surplus in a foreign country at whatever price it will fetch.

Sometimes dumping is resorted to with the object of destroying foreign competition. This policy may be successful for a time. But when dumping ceases, competitors may reappear.

Can a monopolist deliberately produce goods in order to continuously dump them abroad? This is possible under certain conditions. In the first place the industry must be very strongly subject to increasing returns, so that production on a large scale would considerably lower cost per unit of output, taking the quantity sold at home and abroad together. Secondly, the monopolist must be able to charge a price above cost of production at home, so that the loss incurred on sales abroad is covered. The following is an example :—

Units of output	Cost of production per unit	Total cost
10 lakhs	1 Re.	Rs. 10 lakhs
20 lakhs	12 annas	15 lakhs
30 lakhs	8·5 annas	about 16 lakhs

The monopolist produces 30 lakh units of the commodity. Of these he sells 20 lakh units at home at a price of $10\frac{1}{2}$ annas per unit, and dumps 10 lakh units abroad at $7\frac{1}{2}$ annas per unit, or 1 anna per unit below cost. His net profit is one anna per unit, or 10 lakh annas. If he did not produce the additional 10 lakh units for dumping abroad, he could not sell at home at $10\frac{1}{2}$ annas per unit, for his cost would be higher. Assuming that the cost of production per unit would fall in the manner supposed, with the trebling of the output the monopolist may dump continuously abroad.

8. SELLING TO DIFFERENT GROUPS OF PURCHASERS

How the monopolist may maximise his income by selling the same commodity to different groups of purchasers at

different prices is illustrated by figures 51 and 52.

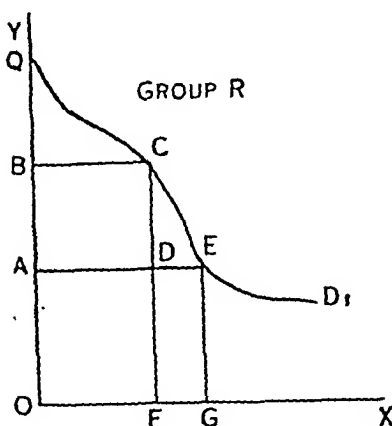


Fig. 51

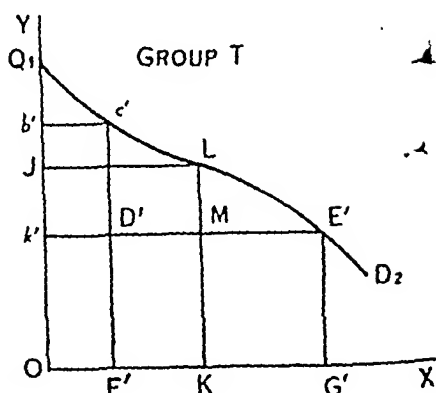


Fig. 52

The demand curves of different groups of purchasers may have different shapes ; it is probable that they will have different shapes.

There are two groups, R and T. D_1 shows the demand schedule of Group R. We measure money along OY and the quantity of the commodity along OX. D_1 may also be called the average revenue curve, for it shows the prices that would be paid per unit for different quantities. OF amount would be purchased at CF price per unit, and OG amount at EG price per unit. Let us assume that the monopolist is producing under constant returns. Cost of production per unit is OA. AE may therefore be called the average cost curve. For Group A the monopolist cannot produce more than OG amount, for beyond OG demand price per unit would be lower than cost of production per unit.

If the monopolist produced OG amount and sold it at EG price per unit to Group R, his profit would be *nil*, for cost per unit is equal to the price per unit. We have to find the biggest rectangle which can be introduced within the area QEA. This is the area of monopoly profit.

Suppose the monopolist produces OF amount for Group R. He would sell it at CF price per unit, and his profit per unit would be CD, DF being cost per unit for OF amount.

His profit by selling OF amount to Group R is thus shown by the rectangle AC.

If he charged the same price from Group T, he could not sell more than OF' amount to this Group, and his profit would be the rectangle $k'c'$. He will gain by charging a lower price, e.g., $OJ=LK$, for then he would sell OK amount to group T and make a profit of LM per unit. His total monopoly profit from group F would be the rectangle $k'L$, which is bigger than $k'c'$.

5. MONOPOLY PRICE IS HIGH PRICE

Monopoly price need not always be higher than price under competition. A monopolist works on a larger scale than competing manufacturers and his cost per unit of output may be lower. But the aim of the monopolist is not to equalise marginal cost and price, but to get the maximum profit for himself. If, by restricting his output, he can increase his profit, he will do so. In the 17th century the Dutch enjoyed the monopoly of pepper, and they kept up its price in Europe by destroying part of the supply when the crop in their possessions in the East Indies was abundant. Statistical studies of monopoly price in the United States have shown that monopoly price is usually higher than price under competition.

But Government may own a monopoly, e.g., salt mining in the Punjab. Government may content itself with a moderate profit, and keep the price low in the interests of consumers. The municipality of a town does not charge a price for drinking water which would maximise its profit—it is interested in the welfare of consumers.

In the case of water supplied by the Punjab Government for irrigation purposes, in view of the heavy fall in agricultural prices, Government's profit as a monopolist would seem to be excessive.

6. LIMITATIONS OF MONOPOLY

While a monopolist would aim at maximising his profit by charging the highest possible price, he may not be free to do

so. Monopolies are usually strictly controlled by Government. Many of our railway lines were built by companies enjoying a guarantee of interest. The widest possible powers of control are exercised by the Secretary of State for India on these 'guaranteed' companies. The Secretary of State has the power to settle the classification of goods and to authorise maximum and minimum rates within which the companies shall be entitled to charge the public for the conveyance of passengers and goods of each class. The Secretary of State may require a company to carry out any alteration or improvement in the line, or in the working that he may think necessary for the safety of the public or effectual working of the line. The reasons for the stringent control of guaranteed companies are two, (a) the 'public using the railways is not able to protect its interests and (b), much Government capital is invested in the guaranteed railway lines. Government, however, has invested no capital in the Lahore Electric Supply Company, but it forced the company a few years ago to reduce its charges for electricity.

Wherever a monopolist begins to exploit the consumer, there is possibility of government interference; the monopolist will therefore hesitate to charge the highest price which would maximise his profit.

If the monopolist is making excessive profits, competition may appear. This possibility can never be completely excluded, and it acts as a check on the monopolist's greed.

Thirdly, an unduly high price may encourage the use of substitutes. In most cases substitution is possible. The substitute may not be equally satisfactory, but in view of the high price of the monopolised good or service, it may be worth while using it. If consumers are able to combine, they may form a consumers' monopoly, and by united action force the monopolist to reduce his charges, or to improve the quality of his product. In most cases, however, it is difficult, if not altogether impossible, for consumers to combine. One wishes that consumers of milk, butter and ghee were able to come together and take action which would check the adulteration of these essential articles of food.

APPENDIX TO CHAPTER XIV

Some Special Forms of Dumping

Dumping to capture foreign markets and to get rid of surpluses has been discussed above. There are two other forms of dumping to which attention may be drawn here.

A government may grant a bounty on export, thus enabling the producer of a commodity to sell it abroad at a lower price. In India the Tariff Act of 1894 was amended in 1899 with a view to check the imports of bounty-fed sugar from Germany and Austria-Hungary. This sugar was produced from beet-root. In three years, 1895-96 to 1897-98, the imports of sugar from these two countries increased from 35,956 tons to 107,452 tons. The result was the closing of Indian sugar refineries in many places. It was feared that if the imports continued unchecked the cultivation of sugar would be abandoned. Competition between a home-produced and an imported article is regarded as 'unfair' when the latter is bounty-fed, and action is always taken to restrict or prohibit such imports.

Exchange Dumping

Dumping may also be due to exchange depreciation. We shall fully discuss the foreign exchanges separately, but a brief explanation may be attempted here to enable the reader to understand how the depreciation of a currency encourages exports and may lead to dumping.

We have said before that a rate of exchange expresses the price of a unit of one currency in terms of a unit of another currency. For example, one rupee is equal to 18*d.* sterling (paper money not convertible into gold), 1 £ sterling = Rs. 13½ (1 £ = 240*d.*).

When it is stated that one rupee is equal to 18*d.*, all that is meant is that by paying one rupee in India one can acquire the right to receive 18*d.* sterling in England. The price of 18*d.* sterling in India is one rupee, or the price of one rupee in England is 18*d.* sterling.

Let us take two countries, England and Germany, before the Great War of 1914-18. The gold sovereign was the unit of British currency and the gold mark the unit of German currency. Both countries also used paper money, which was freely convertible into gold. Or, as we might say in technical language, both countries were on the gold standard. At present there is no gold in circulation either in Germany or in England.

According to the mint regulations of England £1 gold, or a sovereign, contains 7·988 grammes of standard gold. Standard gold is $\frac{11}{12}$ fine. Therefore a sovereign contains $\frac{7·988 \times 11}{12}$ grammes of fine gold.

According to the mint regulations of Germany 500 fine grammes of gold were equal to 1395 marks. It follows that one mark was equal to $\frac{500}{1395}$ grammes of fine gold.

We can now easily find the value of the sovereign in terms of marks.

$$1 \text{ sovereign} = \frac{7·988 \times 11}{12} \text{ grammes of fine gold.}$$

$$1 \text{ mark} = \frac{500}{1395} \text{ grammes of fine gold.}$$

$$\begin{aligned} \therefore 1 \text{ sovereign} &= \frac{7·988 \times 11}{12} \times \frac{1395}{500} \text{ marks.} \\ &= \frac{122·56}{6} \text{ marks.} \\ &= 20·43 \text{ marks (nearly).} \end{aligned}$$

£1 (gold) was thus equal to 20·43 gold marks, called Reichsmarks. This rate expressed the value of the currency unit of Germany in terms of the currency unit of England.

Before the Great War the rupee was equal to 16d., or £1; gold was equal to 15 rupees. Rs. 15 was thus equal to 20·43 marks. Ignoring cost of transportation and export and import duties, if any thing cost 20·43 marks in Germany, its price in rupees in India was Rs. 15, and in England £1.

Suppose new German currency appreciates, so that not more than 15 marks are obtained for 15 rupees, or 1 rupee =

1 mark. Then a book priced at 15 marks in Germany would be sold for 15 rupees in India, ignoring cost of transportation (no export or import duties are levied on books as a rule). Before the outbreak of the present war, German books were paid for at about this rate.

External and Internal Purchasing Power of a Currency.—Next suppose that the mark heavily depreciates, as it did between 1922 and 1924. If one rupee is equal to 1 mark, whatever commodity costs one mark in Germany will cost one rupee in India, ignoring cost of transportation and export and import duties. But if 1 rupee is equal, first, to 2 marks, then 10 marks, and later 1,000 marks, and prices of German goods in Germany do not rise at all, German goods in Indian currency will become cheaper in a corresponding proportion. If the rate is 1,000 marks for 1 rupee, the price of an article costing 1,000 marks in Germany will be just one rupee in India.

But will prices remain unaltered in Germany? It is not likely. Suppose all prices rise in the same proportion in which the currency depreciates in relation to the rupee. The purchasing power of the mark in terms of the rupee may be called its external purchasing power, and its purchasing power in terms of internal goods and services, internal purchasing power. Suppose, when the purchasing power of the rupee in terms of marks increases from 1 : 1 to 1 : 1,000, or the purchasing power of the mark in terms of the rupee falls from 1 : 1 to $1 : \frac{1}{1,000}$, all prices in Germany without exception rise in the proportion of 1 : 1,000, or the purchasing power of the mark in terms of all goods and services falls in the proportion $1 : \frac{1}{1,000}$. In that case the internal and the external purchasing power of the mark have fallen to the same extent—the depreciation in terms of internal goods and services is equal to the depreciation in terms of the rupee.

A rupee may now exchange for 1,000 marks, but its purchasing power in terms of German goods will be the same as before. Whatever cost one mark in Germany before will now cost 1,000 marks.

But it is possible that the external depreciation of the mark may be greater than its internal depreciation. Suppose the German Government takes steps to prevent internal prices from rising unduly, while no steps are taken to control rates of foreign exchange. It may well happen that while the external value of the mark in terms of rupees is $1/1000$ of what it was before, German prices rise in the proportion of $1 : 500$, or the internal purchasing power of the mark falls in the proportion $1 : 1/500$. In that case the purchasing power of the rupee in terms of German goods will double. To take an example, suppose a German book was priced at 1 mark before the mark began to depreciate. We assume that one mark was equal to one rupee. The price of that book was thus one rupee in India (ignoring cost of transportation). If the internal purchasing power of the mark falls in the proportion $1 : 1/500$, the price of that book in Germany will be 500 marks. But the rupee = 1,000 marks. The price of the book in Indian money, other things being equal, would be just 8 annas. German books would become cheaper and more German books would be imported into India.

This was actually the case with German goods in the years of currency depreciation in Germany. When the external purchasing power of the mark was heavily falling from day to day, prices were also rising rapidly in Germany, and they rose to unprecedented heights. But the fall in the external purchasing power of the mark was greater than the fall in the internal purchasing power, and thus currency depreciation stimulated German exports.

Similarly the fall in the value of the French franc from £1 sterling = 77 francs in August 1936 to £1 sterling = 177 francs in the following months reduced the prices of French goods in Indian money, for our exchange was maintained at £1 sterling = Rs. $13\frac{1}{2}$ (Re. = 18d. sterling).

When heavy currency depreciation unduly stimulates exports from a country, the result for other countries, whose currencies have not depreciated, or have depreciated to a much smaller extent, is exchange dumping. Competition with imported goods becomes 'unfair,' and measures are taken to restrict imports.

CHAPTER XV

INTERNATIONAL TRADE

There is a theory of international trade distinct from the theory of home trade, not because distance separates one country from another, but because labour and capital are not so mobile between different countries as between different parts of the same country.

1. MOBILITY OF LABOUR AND CAPITAL

We shall begin with the simplest cases. Let us return to Adam Smith's beaver and deer. We remember that the rate of exchange was 2 deer for 1 beaver. Why? If it tended to become 3 deer to 3 beaver, or deer tended to become more expensive in terms of beaver, deer-hunting would receive a stimulus, and beaver-hunting a set-back. Many beaver hunters might leave their occupation to take to deer-hunting. Let us assume that the working day is equal to 12 hours. If a deer represents 6 hours' labour and a beaver 12 hours' labour, 2 deer would exchange for 1 beaver; 1 : 1 ratio between deer and beaver would mean that in exchange for 12 hours' labour (one beaver) the product of only 6 hours' labour was offered (one deer). Labour and capital would flow from the beaver-hunting to the deer-hunting industry and the resulting scarcity of beaver on the one hand, and the greater abundance of deer on the other, would restore the original ratio of 1 : 2 so that a day's labour in hunting beaver (=1 beaver) was equal to a day's labour in hunting deer (=2 deer).

We assume that beaver hunters and deer hunters live in the same country and that they can freely move with their capital from one part of the country to another.

But suppose deer are found in one part and beaver in a

different part of the same country, and further that migration of hunters from the one part of the country to the other is strictly prohibited. How would the rate of exchange between beaver and deer be determined then?

As soon as we prevent migration of hunters from one part of the country where deer are caught to the other where beaver abound, the two parts of the same country become, for our purposes, two separate countries. The theory of home trade ceases to apply. It can no longer be said that 1 beaver will exchange for 2 deer. The beaver hunters still catch 1 beaver in the course of a day, and the deer hunters 2 deer. But the rate of exchange may be now 1 beaver to 1 deer.

Why? Just because it is not possible for beaver hunters to hunt deer.

Under the conditions we have assumed the rate of exchange will be determined as in the barter of marbles against tops. If you have marbles only and I have tops only, we may do business if (as we have learnt)

$$\frac{\text{the initial utility of marbles}}{\text{marginal utility of tops}}$$

to me is greater than

$$\frac{\text{the marginal utility of marbles}}{\text{initial utility of tops}}$$

to you. Not otherwise.

The fact that beaver and deer hunters live in different parts of the same country between which migration is prohibited, or in separate countries between which there is no migration, means the same thing for our purposes.

Let us take two countries, B and D, B where beaver are found and D where deer are caught. A number of beaver have been caught in B and a number of deer in country D. There is no money and no cost of transportation, and there is no migration of labour and capital between B and D. The frontiers of B and D meet; they are neighbours. At what rate would beaver exchange for deer?

If, rather than have no deer, country B would be prepared to give 1 beaver for 1 deer, and rather than have no beaver, country D would be prepared to give 4 deer for 1 beaver, trade is possible and may begin at any rate between

1 deer for 1 beaver and 4 deer for 1 beaver. The actual rate of exchange would depend on the intensity of reciprocal demand within the limits mentioned, not less than 1 and not more than 4 deer for 1 beaver. If the intensity of B's demand for deer was relatively greater than that of D's demand for beaver, the rate of exchange would be more favourable to D; if D was keen to get beaver while B was not so keen to get deer (or was successful in making that pretence), the rate of exchange would be more favourable to B than to D.

2. WHY LABOUR AND CAPITAL ARE INTERNATIONALLY IMMOBILE

So far we were concerned with primitive communities of hunters. Let us return to the civilised world.

The world is divided into independent nations, and while within the territory of a nation labour and capital move freely, they do not move so freely, and in some cases not at all, between territories governed by independent States. Why?

Capital is more mobile internationally than labour, and in fact British capital is invested in practically all parts of the globe. Still Englishmen would prefer to invest capital in their own country, or in territories ruled by them. Several countries lent money to the Czar during the Great War; the Bolsheviks repudiated the loans. British and American capital is invested in China. Japan may seize it without compensation. The Allied Powers borrowed large sums from the United States during the Great War, but, with the exception of Finland, all borrowing countries, some sooner and others later, declined to meet their obligations. People in one country are generally more willing to lend money to a foreign government than to foreign industrialists, but it is safer to invest money in one's own country than lending it even to a foreign government—foreign governments sometimes forget to repay their debts. In regard to foreign industries, the risk is greater still. In your own country you can watch the use of your capital, and you know the laws of the country and, when necessary, you can

take action to safeguard your interests. The difficulties in the case of a foreign country are greater.

International Migration of Labour.—Labour is practically immobile internationally. This is for two reasons. The labourer may not want to move on account of his attachment to his own country, or he may not be welcomed elsewhere.

Britain is densely inhabited and Australia and Canada are practically empty. (Australia, with an area of nearly 3 million square miles, has a population of less than 7 millions, or it has a density of less than 3 persons per square mile; Canada has a population of 11 millions in an area of nearly $3\frac{1}{2}$ million square miles) and yet it is difficult to persuade British workers to settle in Australia and Canada.

The pressure of population is heaviest in Asiatic countries like India, China and Japan. It would be relieved if Asiatics were permitted to settle in the emptier parts of the globe. But migration of labour from Asia, as also from Eastern and Southern parts of Europe, to Australia and America, is restricted by the severest regulations. Why?

Standards of living in different countries are different.

'To-day,' says Benham, 'the family of a British workman, drawing unemployment relief, is fed and clothed and housed on a scale enjoyed only by a small minority in Eastern countries to-day or in the Great Britain of a hundred years ago.'¹

'Twenty years after the Revolution,' says Parkes, 'the living standards of the average employed worker in Russia are lower than those of the unemployed worker in the United States.'²

The purchasing power of the average Soviet industrial worker is not much greater than that of the average mill worker in Bombay.³ Unemployed workers in the United States are better off than the fully employed average industrial worker in India.

¹ *Economics*, p. 103.

² *Marxism, a Post Mortem*, by H. B. Parkes, George Allen, publisher, 1940, p. 21.

³ See *Marxism is Dead*, by Brij Narain, Chapter V.

Unrestricted migration of labour and capital between different countries would tend to equalise standards of living, and there is the strongest opposition to such equalisation on the part of countries with a higher standard of living. Mr. Parkes says :

“ Consider, for example, the problems which would be presented by the unification under a single government of a rich nation like the United States with a poor nation like China or Japan. An equalisation of the standard of living would be impossible, since the people of the United States would never agree to such a sacrifice.”⁴

It would be a real sacrifice both for the American bourgeoisie and the American proletariat, if any proletariat may be said to exist at all in the United States.

Chinese and Japanese immigrants into the United States were regarded with intense jealousy by American workers. In California an Alien Land Law was passed in 1920 severely restricting the number of Japanese settlers. The marked success of the Japanese as truck-gardeners threatened the prosperity of the American farmer.

The Chinese were regarded with hostility because they were found willing to work for wages far below those required to support an American in comfort. Increase of Chinese immigrants threatened the standard of living of American workers and legislation was undertaken, first in 1882, which suspended Chinese immigration. Immigration laws are enforced with extreme rigour in the United States, as in other countries.

During the last years of the 19th century and first years of the 20th century the United States and the British Dominions ‘closed their doors to Chinese and Japanese immigrants and, indeed, practically to all Asiatic immigrants.’⁵ In Australia immigration is subject to the condition that the immigrant must be able to write down fifty words in a European language at the dictation of the immigration officer. This does not seem a particularly hard or impossible condition to satisfy. At any rate so thought some Asiatic

⁴ Parkes, *loc. cit.*, p. 143.

⁵ *World Economic Survey* of the League of Nations, 1938-39. P. 165.

immigrants who knew several European languages. But they forgot that the choice of the European language rested with the Immigration Officer. When they presented themselves for examination, the Immigration Officer started off with a dictation in Gaelic!

White immigration into the United States, as also into the British Dominions, is strictly controlled, but there is discrimination in favour of migrants from the United Kingdom, and from Northern and Western Europe. It is precisely in the United Kingdom and Northern and Western Europe that a population decline is imminent. It is in Southern and Eastern Europe and in Asiatic countries like India, China and Japan that there is most evidence of over-population.

A Congress convened by the International Labour movement considered the question of emigration in June 1926 in London. The trade unions and labour parties of the world were represented at the Congress. 'Out of deference to the views of the Australian and Canadian labour movement' no resolution was adopted by the Congress favouring the principle of no restriction of immigration on the ground of race and colour, though the great majority of the Congress supported this principle. And if such a resolution were adopted by a future International Labour Congress, it could never be enforced.

International restrictions on migration are a grim reality. They throw some light on the supposed 'solidarity of the international proletariat,' but here we are only concerned with their effect on exchanges of goods in international trade.

3. MEANING OF COMPARATIVE COSTS

Let us take two countries, England and India. There are two commodities only, X and Y. There is no money and we ignore cost of transportation and export and import duties. Further, we assume that production of both commodities in both countries is subject to constant returns.

India and England produce both X and Y, but their skill

* See the article on 'Emigration' in the *Labour Encyclopædia* Vol. 1, p. 247.

in production is different. With a given unit of labour and capital:

India can produce	... 5X or 10Y, and
England can produce	... 10X or 20Y.

In both countries Y is less difficult to produce than X, and precisely in the same proportion 1:2. The ratio of comparative costs is the same 1:2.

The ratio of comparative costs means the ratio of cost of production of X to Y (or Y to X) in India as compared with the same ratio in England. In our example the cost of production of X bears the same relation to the cost of production of Y in India as in England, or the cost of production of Y bears the same relation to the cost of production of X in India as in England.

When comparative costs are the same permanent international trade cannot exist.

With two units of labour and capital India and England will produce:—

India	... 5X+10Y
England	... 10X+20Y.

But if India produced X only and England Y only, the expenditure of 2 units of labour and capital in each country would give them:

India	... 10X
England	... 40Y

Having produced X alone, India wants to buy Y from England. At most how many Y can England give for 5X? Not more than 10Y in any case, for in England, as in India $1X=2Y$. But India can produce 5X herself with the expenditure of a unit of labour and capital. The gain to India from trading with England is *nil*.

Similarly India can give for 2Y imported from England at most one X—in no case more. England's gain from trading with India will be *nil*.

It is thus seen that when comparative costs are equal permanent international trade cannot exist.

4. PERMANENT INTERNATIONAL TRADE STARTS WHEN COMPARATIVE COSTS DIFFER

Let us vary our illustration, without varying the fundamental assumptions. With one unit of labour and capital:

India produces	... 10X or 15Y
England produces	... 10X or 20Y.

The ratio of comparative costs is different. In India $1X = 1\frac{1}{2}Y$; in England $1X = 2Y$. The cost of production of Y is relatively lower in England than in India.

If both countries produced both the articles, then, with two units of labour and capital:

India will produce	... 10X + 15Y
England will produce	... 10X + 20Y

Total	... 20X + 35Y
-------	---------------

But suppose the two countries specialise. The cost of production of Y is relatively lower in England. Let England produce Y and India X. Then with two units of labour and capital:

India will produce	... 20X,
England will produce	... 40Y,
There is a gain of	... 5Y.

This gain results from specialisation, or territorial division of labour. Free trade would lead to specialisation by different countries in the production of goods for which they possess the greatest comparative advantage, and thus augment world production. If increase in world production is the sole object of desire, and nothing else is of any importance, the case for free trade is unanswerable.

How would the gain of 5Y be shared by the two countries? This depends on the terms of trade, or the rate of exchange. Within the limits set by comparative costs, the rate of exchange would depend on the intensity of reciprocal demand, i.e., the intensity of India's demand for England's Y, as compared with the intensity of England's demand for India's X.

If the intensity of India's demand for Y was relatively greater, India might accept 16 Y for 10 X, but in no case would she accept less than 15 Y; if England's desire for our

X was relatively keener, England might give as many as 19 Y for 10 X, but in no case more than 20 Y. Suppose the rate of exchange is 18 Y for 10 X. Then

India will have ... $10 X + 18 Y$,

England will have ... $10 X + 22 Y$.

India has gained 3 Y and England 2Y. Both are gainers. If we allowed for cost of transportation, the total gain of 5 Y from foreign trade is reduced to, let us say, 4 or $4\frac{1}{2}$ Y.

If India levied a duty on the import of Y, her consumer's gain may be reduced from 3 Y to $2\frac{1}{2}$ or 2 Y. Our assumptions that there is no cost of transportation and no export or import duties do not alter the fundamental principles of international trade.

5. COMPARATIVE COSTS IN TERMS OF MONEY

Let us introduce money, without changing the other assumptions. There are two countries only, two commodities only, wheat and cloth, production is subject to constant returns, and there is no cost of transportation and no export or import duties. In both countries the currency is the same, gold sovereigns. Let us suppose that the costs of production of a unit of wheat and a unit of cloth in India and England are the following:—

	<i>Wheat</i>	<i>Cloth</i>
India	... £ 4	£ 8
England	... £ 1	£ 2

Comparative costs are the same, for in both countries a unit of cloth is twice as more expensive to produce as a unit of cloth.

Since both wheat and cloth are cheaper in England than in India, England will export both to India, but trade will soon come to an end. For British exports of wheat and cloth India will pay in gold. The loss of gold will lower prices in India and the influx of gold into England will raise prices in that country (we have assumed that gold is the only money; the loss of gold is not made good in India by the issue of paper money, and the gold imported by England does not disappear into hoards). When prices

have risen 100 per cent in England, they will have fallen by 50 per cent. in India. When that stage is reached, the costs of production of wheat and cloth in England and India will be identical—£ 2 per unit., for wheat and £ 4 per unit for cloth in both countries. Trade ceases for there is no gain to India or England by trading with the other.

. Next suppose that comparative costs are different.

	<i>Wheat</i>		<i>Cloth</i>	
India	... £ 4	per unit	£ 8	per unit.
England	... £ 1	per unit	£ 1	per unit.

In England cost of production of a unit of wheat is the same as that of a unit of cloth, but in India a unit of cloth is twice as costly to produce as a unit of wheat.

As before, England will export both wheat and cloth to India, and India will pay for the imports in gold. As before prices will fall in India and rise in England. When they have risen 100 per cent. in England and fallen 50 per cent. in India, cost of production of wheat will be £ 2 in both countries, and that of cloth £ 2 in England and £ 4 in India. India will cease to import wheat but continue to import cloth and to pay for it in gold. Prices will rise further in England and fall further in India. Soon India will be able to export wheat because its cost of production will be £ 1½ per unit in India while it will have risen to £ 2½ per unit in England; but India will still import cloth as the cost of production of cloth will be £ 3 per unit in India, as compared with £ 2 ½ per unit in England. These are conditions of enduring trade, India paying for the imports of cloth by the exports of wheat India will specialise in the production of wheat, and England in that of cloth. The trade can continue indefinitely if production is subject to constant costs in the two countries.

International trade is advantageous even if a country possesses an absolute advantage over another country in the production of two goods, but enjoys a greater comparative advantage in the production of one of the two. England may be able to produce both wheat and cloth cheaper than India, but if she enjoys a greater comparative advantage over India in the production of cloth, she will gain by specialising in cloth and importing wheat. Why?

Let us take simple examples from every-day life. The principal of a college enjoys an absolute advantage over his office-staff both in managing the college and in drafting official letters, but a greater comparative advantage in the work of management and administration. He therefore gets all or most of the drafting done by the office staff. He would not be making the best use of his time and abilities if he attempted to do all the drafting himself.

The head of a firm might be a better salesman than any salesman he employed, but there is other far more important work which no salesman can do for him. He, therefore, leaves the selling of goods to others.

The head cook in a boarding-house does not clean utensils. He may have no objection to it on grounds of caste, but his time and talent are better employed in cooking.

Specialisation increases productivity and, as we have said before, if nothing else mattered or was of any consequence, agricultural countries would gain by restricting themselves to the production of food-grains and raw materials.

6. INTERNATIONAL TRADE WHEN PRODUCTION IS NOT SUBJECT TO CONSTANT RETURNS

Suppose there are two countries only and two commodities only, but that production is not subject to constant returns in either country. Is it not possible that, as trade expands, a stage may be reached when it will not be profitable for either country to trade with the other?

The alteration in costs may make comparative costs identical. But in the actual world trade is carried on, not in two but in thousands of commodities, and not between two countries only but between all the countries of the world. It is extremely unlikely that a country would be reduced to a position in which it is not profitable for it to export or import anything at all.

But the alteration of costs of production may considerably weaken a country. It is in this unhappy position that

India finds herself at the present time. The opening of the Suez Canal gave a great stimulus to our trade with other countries. Railways linked important centres of production with the ports, and the cheapening of sea-transportation facilitated the export of raw materials and food-stuffs and the import of manufactured goods. The construction of canals added to the area under cultivation and our exportable surplus of food-grains and raw materials increased. There was a keen demand in foreign markets for our exports and the terms of foreign trade were in our favour. Between 1900-01 and 1930-31 the net imports of gold into India (excess of imports over exports of gold) amounted to no less than Rs. 548 crores. This was the price of our surplus exports of goods. Seventy-five per cent of our exports are wholly or mainly unmanufactured, and roughly the same proportion of our imports are wholly or mainly manufactured.

We neglected manufacturing industries because we could import manufactures cheaply. We relied on exports of raw materials and food-stuffs for continuing prosperity. That dream of prosperity came to a sudden end with the revolution in agricultural methods in foreign countries. The world no longer needs our wheat, and the world production of cotton has substantially increased, in spite of restriction of production in the United States. While all prices have fallen during the past 15 years, the prices of food-stuffs and raw materials have fallen more heavily than those of manufactured goods, which means that to obtain a given unit of manufactured imports India has now to give a larger unit of raw exports. The net result is heavy exports of gold.

We have no means of compelling other countries to buy our raw products. Our power of competition in foreign markets has grown weaker on account of our inability to modernise agriculture. In these circumstances, if we admit manufactured imports freely, we must be prepared to export more and more gold until there is none left in the country.

We are here not arguing the case for protection. Our object is merely to show that the theory of international trade does not lend support to the view that free trade is best under all circumstances. When profitable international trade has come into existence owing to differences in com-

parative costs, it may cease to be profitable if comparative costs so alter that an agricultural country finds its exports dwindling rapidly while its essential imports have to be maintained by the export of gold. This is a ruinous position for any country.

7. NON-COMPETING GROUPS

If the price of a unit of wheat in India, which India produces, is £1, and if the price of a unit of cloth which England produces is also £1, and if India pays for a unit of cloth by exporting a unit of wheat, how far is it true to say that the money costs of wheat and cloth correspond to real costs of production?

There is no necessary correspondence between real costs. £1 may represent the daily wages of 2 or 3 English workers and of ten or fifteen Indian workers, and the conditions of work in India may be more arduous.

Similarly, if country B gives 1 beaver in exchange for 1 deer to country D, it does not follow that labour and effort involved in securing a beaver in country B is equal to that of catching a deer in country D.

But, as we have seen, when labour and capital can move freely from the one occupation to the other in the same country, beaver and deer would exchange according to the 'opportunity cost' ratio, which may be 1 : 1, or 2 beaver to 3 deer, if a day's hunting would yield 2 beaver or three deer. International trade is trade between two non-competing groups—that is groups between which labour and capital are immobile. Whenever, in the same country, labour and capital in one occupation cannot be readily transferred to another occupation which has become more profitable, non-competing groups come into existence, and money costs cease to correspond to real costs.

If we assume perfect mobility of labour and capital from any occupation to any other occupation in the same country, money costs would always correspond to real costs, or labour would be the standard of value.

We have seen that labour and capital are more mobile within a country than between different countries. In

explaining the difference between the theory of home trade and that of foreign trade, for purposes of argument, it was assumed that mobility is present in the one case but absent in the other.

But, as a matter of fact, there are many non-competing groups within a country, so that money costs only measure marginal utilities, and not real costs.

Consider agriculture as an industry. What is the level of profit in agriculture as compared with that in manufacture?

A detailed statistical study of this question has been made by a foreign writer, Mihail Manoilescu, sometime President of the Union of the Chamber of Commerce and Industry in Rumania. He finds that all other occupations are $4\frac{1}{3}$ times as productive as agriculture. This conclusion is based on statistics for 22 countries, of total national income, the proportion of agricultural income to total income, and the proportion of agricultural workers to the total number of workers in each country. M. Manoilescu has good reasons for speaking of '*l'infériorité intrinsèque*' (intrinsic inferiority) of agriculture and '*la supériorité intrinsèque*' (intrinsic superiority) of industry.*

We are not so much concerned with other countries as India. The following is an extract from the Government review of the report on the working of the Punjab Court of Wards during 1936-37:—

"On 225,369 acres of cultivated land under the management of the Court during 1936-37, the gross income (less land revenue) averaged only Rs. 3-13-0 per acre. If the average value of this land were put at only Rs. 150 an acre, the return would amount to little more than $2\frac{1}{2}$ per cent. of the capital, and the net return would probably be round about 2 per cent. These figures suggest that the return from land is substantially lower than the return from most other forms of investment."

The average rate of industrial profit (net) at the present time may be about three times higher than net income from agriculture.

* *Théorie du Protectionisme et de L'Échange International*, Paris, 1929, p. 61.

We are not called upon to determine the exact degree in which industry as a whole is more profitable than agriculture. That the level of profit in industry is substantially higher cannot be disputed, and this is sufficient for our purposes.

8. AGRICULTURE AND INDUSTRY AS NON-COMPETING GROUPS

Why do not labour and capital move from agriculture to manufacturing industries, so that the rate of profit in both occupations is equalised? It is no use arguing that they will 'tend' to move. In fact the rates of profit in the two main occupations are different and they may remain different for a very long time. It may not be possible for industry to absorb all surplus agricultural labour. Peasant-proprietors are not so rapidly transformed into factory owners as one might be led to think on grounds of 'pure' economic theory. And what alternative occupations can be found for millions of tenant-cultivators?

Conditions being what they are, agriculture and industry may be viewed broadly as two non-competing groups, so that if a maund of wheat sells for Rs. 3, and Rs. 3 is also the price of a given quantity of cloth, equal money costs do not represent equal real costs within the same country. A unit of wheat may represent far more toil, pain and sacrifice than a unit of cloth which sells for the same price. All that can be definitely stated is that the cost of production of wheat represents the marginal utility of the services of wheat farmers, and likewise the price of cloth.

For a few minutes' session a good dentist charges Rs. 10, which is ten days' wages of a coolie. Coolies and dentists represent non-competing groups, and their earnings do not measure real costs. Again, all that can be definitely stated is that the dentist's fee measures the marginal utility of his services to society as a whole, and the same is true of the wages paid to a coolie.

There are more non-competing groups within a country than one would suspect. Beaver and deer groups, where there is no difficulty of substitution, or where technical

displacement takes place easily and rapidly and without friction, are comparatively rare.

9. THE BALANCE OF TRADE

The balance of trade shows the relation between exports and imports of merchandise. The balance of trade is said to be favourable when exports of merchandise exceed imports of merchandise in value, and unfavourable when imports of merchandise exceed exports of merchandise in value.

India's balance of trade in merchandise is shown below:—

		1929-30 Rs. Lakhs	1938-39 Rs. Lakhs
Exports of Indian Merchandise	...	+3,10.80	+1,62.77
Re-exports of foreign Merchandise	...	+ 7.13	+ 6.42
Total exports of Indian Merchandise	...	+3,17.93	+1,69.19
Imports of foreign Merchandise	...	-2,38.91	-1,51.80
Balance of trade	...	+ 79.02	+ 17.39
Net imports (-) or net exports (+)			
Of gold (private)	...	- 14.22	+ 13.05
Of silver silver	...	- 11.89	- 1.75
Of Currency Notes	...	- 9	+ 58
Total Net imports (-) or net exports (+) of Treasure	...	- 26.20	+ 11.88
Total visible balance of trade	...	+ 52.82	+ 29.27

The figures for Burma are included in these statistics for the year 1929-30, but not for 1938-39 on account of the separation of Burma from India in 1937. All goods imported into India are not consumed in India; goods of a comparatively small value are re-exported to neighbouring countries. Exports of imported goods are called re-exports. In the year 1938-39 India imported gold worth Rs. 74 lakhs, while exports of gold amounted to Rs. 13.79 lakhs. Thus export of gold exceeded imports by 13.05 lakhs. The excess of exports over imports is called net exports, and that of imports over exports, net imports.

Imports, whether of goods or of treasure, form part of

the country's debit balance and are therefore shown as *minus*; exports, whether of goods or gold, create a credit balance and are, therefore, shown as *plus* in trade statistics.

Let us, for the moment, confine our attention to merchandise only. In the year 1929-30 the balance of trade in merchandise was in our favour to the extent of 79 crores of rupees; in the year 1938-39 the amount of the favourable balance was much smaller, a little over Rs. 17½ crores.

Every year the value of goods exported from India is greater than the value of goods imported into India, or India has a favourable balance of trade in merchandise.

But this is not the whole story. We import not only goods but services, for which we have to pay.

10. INVISIBLE IMPORTS AND EXPORTS

A considerable amount of British capital is invested in India. Its exact amount is not known, but it may be well over Rs. 1,000 crores. We have to pay interest on this capital. We have to pay for the services of British civilians, soldiers and sailors employed in India. Services in other forms have also to be paid for, e.g., those of British banking, insurance and shipping companies. Indian students are receiving education in British Universities; Indian tourists are having a good time abroad. Services rendered to a country or its nationals abroad form part of the country's imports; services rendered by a country to foreign countries or their subjects in any shape or form must be included in its exports. Indian students studying abroad have to be kept supplied with their requirements. We send them money, but ultimately goods are exported on their account. These exports of goods are visible, and are recorded in custom-house statistics. What we import is (let us hope) better minds, but this import is not mentioned in official statistics. When we pay interest on foreign capital invested in India, goods are exported, which are recorded in statistics of foreign trade, but the receipts for loan are 'invisible' because they are not included in 'visible' imports.

Invisible exports and imports are not really 'invisible.'

They are so called because they are not included in trade returns.

The total 'visible' balance of trade, including treasure, was about Rs. 53 crores in our favour in 1929-30, and a little over Rs. 29½ crores in our favour in 1938-39. But more important than the 'visible' balance of trade is the balance of payments, which includes all items of debit and credit, all goods as well as all services.

The export of services from India is negligible; the import of services, both on Government and private account, is a heavy item on debit side. The sterling obligations of the Government of India, known as the 'Home Charges,' amount to about £40 millions annually. While the total 'visible' balance of trade was in India's favour in 1938-39, the balance of payments must have been unfavourable. Including the Home Charges our annual obligations to foreign countries may well amount to Rs. 75-80 crores annually.

It should be clear to the reader why India must have a favourable balance of trade. All debtor countries must have a favourable balance of trade, if they are to remain solvent.

Exports of goods and services pay for imports of goods and services, and the two must balance in a given period of time. A student living in a college hostel spends Rs. 50 a month. Ignoring gifts from friends and relatives, and loans, and interest on loans, what he spends, or what goes out of his room (Rs. 50) must be balanced by what comes into his room in the shape of his purchases and in the form of services, (e.g., education, and amusement provided by a cinema show or other public entertainment which has to be paid for). If in any month the value of the goods and services enjoyed exceeds Rs. 50, the student has been running into debt, or has received presents; if in any month, the value of the goods and services enjoyed is of less value than the sum spent, he has been making presents to others, or paying interest on loans previously taken, or himself lending money.

What is true in regard to the balancing of an individual's account is true in the case of a country as a whole, but the process is much more complicated.

A country's balance of trade in merchandise, and even the total 'visible' balance of trade including treasure, may

be favourable, and the balance of payments unfavourable. An unfavourable balance of payments is an unhealthy sign. It is a warning that unless imports of goods and services are cut down, bankruptcy is not far off.

An unfavourable balance of trade, as distinguished from an unfavourable balance of payments, is a luxury enjoyed by creditor countries.

11. THE BRITISH BALANCE OF PAYMENTS

We may now proceed to examine the balance of trade and payments of a creditor country, e.g. England.

The British Committee on Finance and Industry, appointed in 1931, wrote in their report:—

"We are a small island, crowded with a population of 46,000,000, of whom about 80 per cent. live in towns or urban districts. We have under existing conditions to import 60 per cent. of our food, and in 1930 imported altogether articles of the value of £958 millions (excluding re-exports) or £20 17s. 0d. per head, a figure high in comparison with most countries. We are enabled to pay for these imports partly because we are a great industrial and exporting country, but—since our commodity exports alone would be insufficient—very largely because, as a great commercial, financial, shipping and entrepôt⁷ nation, we draw an income of some £195 millions from the rest of the world in banking, insurance and other commissions, and in shipping freights, and because, by the investment of our past savings abroad, we have built up large foreign assets, from which we draw each year in interest about £270 millions. We are thus the antithesis of what the economists term a 'closed system.' We are dependent on very large imports to maintain our standard of living and on very large exports to maintain employment; but to pay for those imports we have become largely dependent on our interest from our foreign investments, and on our profits as international bankers, merchants and so forth."⁸

⁷ A large amount of world's trade passes through the United Kingdom.

⁸ P. 46.

Imports per head of £20-17-0 are equal in value to Rs. 278. Imports of foreign merchandise into India in 1929-30 amounted to about 11 annas per head, and in 1938-39 to less than 8 annas per head.

The high level of imports into England bears testimony to the very high standard of living of the British people. These imports are paid for in the first instance by exports of British manufactures. But normally there is an excess of imports over exports. But for her 'invisible' exports, Britain could not maintain her prosperity. Britain's balance of payments for the year 1929 is shown below :—

(a) Balance of Payments

	1929 (£ Millions)
Excess of Imports of Merchandise and Bullion ...	366
Government Receipts from Overseas (net) ...	24
Net National Shipping Income ...	130
Net Receipts from Short Interest and Com- missions ...	65
Net Income from Overseas Investments ...	270
Net Receipts from other sources ...	15
Total ...	504
Estimated total credit balance on above items ...	138

(b) New Overseas Issues on the London Market

British Empire ...	54
Foreign ...	40
Total ...	94

In the year 1929, the excess of imports of merchandise and bullion over exports amounted to £366 millions, but income from British investments in other countries and payments from services in various forms, amounted to £504 millions. The balance of payments was thus in favour of the United Kingdom to the extent of £138 millions. In the

same year England reinvested £94 millions abroad.

The decline in her income from overseas investments, combined with the falling off in exports of merchandise in recent years, has created a serious situation for the United Kingdom.

12. LOANS ARE MADE IN GOODS

We have said above that loans are generally made by one country to another in the form of goods, and that debtor countries pay interest on loans also by exporting goods. The reasons may be now explained.

Suppose we raise a loan of £10 millions in England. The loan is wanted for productive purposes, that is, we propose to spend it on the construction of railways. We do not manufacture railway material, and must therefore buy it somewhere. Having borrowed money from England we may spend it in Germany, but in that case England would not be so willing to lend us money again. The greater part of the loan would be spent in England, or, with the grant of the loan, goods will begin to move from England to India.

No country has unlimited reserves of gold. Gold is the basis of credit, and if a country lost a considerable amount of gold, a credit contraction may become necessary. Contraction of credit is a painful process and may precipitate a crisis. Every country, therefore, jealously guards its central gold reserves, and except in very special cases, no loan of large amount would be made by exporting gold to the borrowing country.

It is sometimes argued that if a loan were made in gold, prices in the lending country would fall, and they must rise in the country which gets the gold—it may be the borrowing country or a third country. In our illustration, if we spent a loan of £10 millions, raised in England, on German goods, prices would fall in England because of credit contraction, and rise in Germany on account of the expansion of credit rendered possible by the acquisition of gold. Goods would move from England to Germany, since prices in Germany, it is argued, will be relatively higher than in England, and the movement of goods will continue until the

gold lost by England returned to her. It is thus shown that ultimately the loan is made by England in the form of goods. Goods moved from England to Germany, but German goods moved to India. In the end India received the loan in the form of goods.

This argument assumes that; before the loan was made, gold prices in different countries were at the same level, so that a rise of prices in Germany or India, on account of the influx of gold, would immediately lead to a rise of prices, which would, in the long run, encourage the import of goods and cause the export of gold.

But conceivably prices in the gold importing country may not rise sufficiently to attract goods from the lending country. Further, recent experience has shown that Government can prevent prices from rising by taking appropriate measures. Much of the imported gold may simply disappear into the hoards of the Central bank.

Loans ultimately take the form of goods because no lending country would willingly part with a considerable amount of gold. And the monetary gold of a country is found only in one place, the vaults of the Central bank.

Capital does not always flow from one country to another in the form of gold. British investors may buy Indian tea, jute or coal shares. In this case India has not added to her capital equipment only shares have changed hands, or some assets which were formerly held by Indians pass into foreign hands. But if we raised a loan abroad to build new factories, to start new industries, to construct hydro-electric works or to extend the railway net, then there will be a movement of goods from England to India.

13. INTERNATIONAL BORROWING AND LENDING

Foreign capital has played a very important part in the development of backward countries. If we raise a loan abroad at 4 per cent. and the investment yields us 10 or 12 per cent. we can easily afford to pay interest on the loan. At the same time the loan is advantageous to the lending country. Employment is created there and the industries

concerned expand. A country which exports capital on a large scale would be industrially prosperous, with high wages and a high standard of living. The increase in her purchasing power, due to the expansion of constructional and other industries, would enable her to buy more food and raw materials from debtor countries.

Before the Great War the chief creditor nations were England and France, and of less importance, Belgium, Holland and Switzerland. The United States borrowed more than she lent. The United States emerged from the Great War as a lender, and at present the United States and Great Britain are the two chief creditor countries.

The whole mechanism of international borrowing and lending is a delicate one. When it is suddenly subjected to a severe strain, it may break.

During 1924-29 the United States and England, respectively, made loans to South America approximating 1,200,000,000 dollars and £50,000,000, of which the small Republic of Columbia received 170,000,000 dollars. 'There was a great boom. Competitive railway building and other public works sent up wages by leaps and bounds; imports vastly increased; food was imported where before it had been produced locally. When the gold stream ceased, there was a collapse. Imports ceased and Columbia thus added its small quota to depression in the industrial countries.'⁹ The same thing happened in Brazil, Peru, Chile, probably in the Argentine and "certainly in Australia."¹⁰

But why should the golden stream cease to flow?

Suppose on account of technical advance in agriculture, production increases so much that food-stuffs and raw materials, the products of debtor countries, cannot be sold at remunerative prices. Prices come down, profits vanish, the credit of borrowing countries contracts and the golden stream ceases to flow. Not only would the creditors not make fresh loans to agricultural countries, but insist on the payment of old debts. Under such conditions foreign capital becomes 'homesick' (*Heimweh des Kapitals*). The

⁹ Macmillan Report, p. 80.

¹⁰ *Ibid.*, p. 80.

sudden recall of foreign capital may throw the currency system of debtor countries into confusion.

The creditor countries themselves cannot escape injury. If the purchasing power of debtor countries shrinks, their demand for imports from creditor countries would fall. First the constructional industries would be affected, and gradually the depression would spread to other industries. The figures of unemployment would mount up. As the situation grows worse, more countries would become involved in the general chaos and ruin.

This is precisely what happened in 1928-31.

The amount of foreign lending by the United States and England after 1930 has been on a much reduced scale, and in certain years there were no capital issues at all on foreign account. The same is true of other lending countries, e.g., France, Switzerland and the Netherlands.

The Bank of International Settlement wrote in its Seventh Annual Report, 1936-37 :—

"A situation has now arisen in which the redemptions, repayments and repatriations of old foreign loans greatly exceed the amount of new issues on foreign account on the American, British and probably other lending markets. There have, indeed, been large capital movements for the purchase of bonds and shares on foreign markets, but this involves merely the acquisition of existing capital assets. Such transactions do not, unfortunately, give rise to a movement of commodities to the countries receiving the capital funds to the same extent as do new issues on foreign account, whether for public works or for industrial investment. The small volume of foreign issues is therefore one of the reasons for the depressed level of international trade." ¹¹

The following statement¹² shows capital issues on foreign account in the United Kingdom and the United States in certain years :—

¹¹ *World Economic Survey*, League of Nations, 1936-37, pp. 182-83.

¹² *Statistical Year Book* of the League of Nations, 1939, pp. 292 and 303.

*Capital Issues on Foreign Account in the United Kingdom
and the United States.*

Year	United Kingdom (Statist.) Million £	United States (Million) \$
1930	43.77	1,009.2
1931	7.92	253.7
1932	.....	26.0
1933	7.10	0.1
1934	3.75	.....
1935	6.73	.....
1936	2.84	23.0
1937	6.69	3.3
1938	4.36	25.1

BOOK IV

\ Mechanism of Exchange: Money and Banking

CHAPTER XVI

THE THEORY OF MONEY

In the preceding chapters money has been referred to as 'general purchasing power.' Money (except to a miser) is useful only in so far as it can be turned into goods and services. A rupee is like a railway ticket, which is wanted, not for its own sake, but only as a right to make use of the railway for a journey. The demand for a railway ticket is indirect, and so is the demand for money.

1. INCONVENIENCES OF BARTER

Money obviates the inconveniences of barter.

Barter involves double coincidence of wants and of possessions. Goods may be, and are exchanged without the use of money, but when there is no money, the two parties to a barter must each want what the other possesses, and possess what the other wants. A shoe-maker may want a coat, but a tailor, at the moment, may not stand in need of a pair of shoes.

There is the further difficulty in barter of accommodating units of sale to units of purchase. A coat may be of greater value than a pair of shoes, but of less value than two pairs of shoes. A coat with one sleeve will be of little use to the shoe-maker, and the tailor may not care for one pair of shoes *plus* a shoe for the right or the left foot.

The inconveniences of barter lead to the emergence of money in a very early stage of society.

2. FORMS OF MONEY

Any commodity, in terms of which purchases and sales are commonly made, performs the functions of money. In a

civilised community to-day the chief forms of money are paper, and gold and silver, but the use of gold coins in buying and selling has been almost universally abandoned.

In early times various articles have served the purpose of money, *e.g.*, carved pebbles in Ethiopia, glass-beads along the Arabian gulf, and shells and red feathers in the islands of the Indian Ocean. Till recently shells (cowries, 64=1 pice) were not uncommonly used even in capital towns of India for small purchases. Among the metals, iron was used in ancient Sparta, lead by the Romans and the early English, and tin by the Mexicans. Copper and nickel are largely used for subsidiary coinage at the present time in many countries.

Gold and silver are best fitted to perform the functions of money. But the rôle of gold in the monetary system has changed during the past 25 or 30 years. Formerly a considerable quantity of gold was in circulation in many countries. At present the chief use of gold is for meeting foreign obligations, and as a basis of credit.

3. QUALITIES OF GOOD MONEY

Whatever article is chosen to perform the functions of money must fulfil certain essential conditions:—

(1) It must be generally acceptable. If wheat is given and taken generally in effecting exchanges, wheat is money. No commodity can serve as money which is not generally acceptable. If I am not certain about being able to convert wheat, which I have obtained by selling, *e.g.*, earthen pots, into cloth, when I want cloth, I will refuse to take wheat as the price of my pots.

(2) Money should be portable, or contain considerable value in small bulk, for money has to be carried about. Cattle may be driven about, but that is not so convenient as carrying gold or silver or paper in one's pockets.

(3) Money should be readily recognisable. It should also be of uniform quality. Difficulties arise if the article chosen as money is of many different qualities, which are not easily distinguishable, one from the other. Delay and inconvenience will be caused in effecting exchanges.

(4) Money should be divisible. Cattle were used as money in very early times in India and other countries, which is shown by the derivation of the word 'pecuniary' (from *pecus*, Latin for cattle). Now cattle are not divisible. A diamond is not divisible either, for ten pieces into which we may break up a big diamond are not equal in value to the single diamond. Gold and silver are perfectly divisible; a tola of gold or silver has the same value when divided into 8 or 16 equal parts.

(5) Money should be durable, or it should not be perishable. Wheat will not keep for more than a year. Gold and silver are practically imperishable.

(6) Finally, money should be comparatively stable in value.

Gold and silver are more stable in value than other commodities. The price of wheat fluctuates according to the seasons, but variations in the annual production of gold and silver exercise a negligible influence upon the price of these metals. This is because the annual output is a very small proportion of the total stocks of gold and silver in existence.

The scale of national wealth and income determines which metal, or group of metals, will be used in a country as money. Gold would have been money of too high a value for ancient Sparta. Gold was coined in Akbar's time, for it is stated in the *Ain* :

بیشتر خرید و فروخت این آباد بوم بمهر گرد و روپیه و دام باشد۔

(The round '*mohar*' and rupees and *dam* are chiefly used in buying and selling in this country.) *Mohar* was a gold coin of various denominations. The rupee was made of silver, and was of about the same weight and fineness as the rupees coined under the Act of 1835. *Dam* was a copper coin, and 40 *dams* were equal to one rupee in the time of Akbar.

4. FUNCTIONS OF MONEY

The qualities of money have to be considered in relation to the functions that money is required to perform.

Money is a medium of exchange, or exchanges are

effected with the help of money.

Money must be a common denominator of value before it can serve the purpose of a medium of exchange. This means that all values can be expressed in money. If a maund of wheat is equal to 4 rupees, and a maund of coal equal to two rupees, a maund of coal is equal to half a maund of wheat. We can compare the price of one thing with that of anything else, for the values of all commodities, including services, are expressed in money.

The rupee is the common denominator of value in India. Values are also expressed in annas and pice, but they are only fractions of a rupee. An orange selling at one anna = $1/16$ of a rupee; anything of the value of one pice = $1/64$ of a rupee.

Thirdly, money is a store of value. One may hoard money. Savings are kept in the form of money. A certain amount of purchasing power is, as it were, stored in money, and we may use the store of value now, or at a future date. When, however, general prices rise or fall, our store loses or gains in purchasing power, respectively. This is one reason why money should be stable in value.

Another reason for desiring stability in the value or purchasing power of money is that it is used as a standard for deferred payments. A deferred payment is a payment which will be made at a future date. I borrow Rs. 1,000 from you for ten years. The loan is made in money. I am bound to return Rs. 1,000 to you at the end of ten years. When the loan is made, the sum represents a certain amount of purchasing power in terms of goods and services. If by the time the loan is repaid, prices have doubled, the purchasing power of money in terms of goods and services will have fallen by 50 per cent. Having borrowed purchasing power equal to 1,000 rupees, I shall be returning purchasing power equal to half that amount. For, by the terms of the contract, I am bound to return a sum of Rs. 1,000, not an equal amount of purchasing power.

Even when a loan is actually made in the form of goods, as by a village *mahajan* to a peasant, its value is reckoned in terms of money.

5. INDIAN MONEY

Our money consists of paper, the silver rupee, half-rupee and quarter rupee, nickel 4-anna, 2-anna, and 1-anna pieces, and bronze coins in the form of pice, half-pice and pies. Bronze coins are coined from a mixed metal consisting of copper, tin and zinc.

1. Paper money and the silver rupee and half-rupee are unlimited legal tender, that is, they may be legally tendered in unlimited amounts in discharge of a debt.

The 4-anna silver piece, nickel pieces and copper money are legal tender to the extent of one rupee only. No one can legally discharge a debt of more than one rupee by tendering small change.

The standard weight of the old rupee was 180 grains Troy, and its standard fineness was $11/12$, or it contained 165 grains Troy of fine silver. In 1941 the fineness of silver in the rupee was reduced to 50 per cent, that is the new rupee, which has come into circulation, contains 90 grains Troy of fine silver, not 165 grains. The weight of the rupee remains unchanged.

The Coinage Act specifies the standard weight of subsidiary coins. For example, the standard weight of the one-anna piece is 60 grains Troy and of the pice 75 grains Troy.

All coins, when freshly issued by the mint, may not be exactly of the standard weight and fineness. A 'remedy' in weight and fineness is therefore allowed. For the rupee, the remedy in weight is five-thousandths, and remedy in fineness, two-thousandths. This is known as 'tolerance of the mint.' Variations in weight not exceeding five-thousandth part of the standard weight, and in fineness not exceeding two-thousandth part of the standard fineness, are 'tolerated' or ignored.

A coin which has been defaced ceases to be legal tender. A rupee or half-rupee ceases to be legal tender when it is more than two per cent below standard weight.

Defaced rupees may be handed over by the public to a currency official. When the currency official has reason to believe that the coin has been fraudulently defaced, he will

cut it into pieces and return the pieces to the person tendering the coin, who bears the loss. When the official has not reason to believe that the coin has been fraudulently defaced, he will receive and pay for the coin at its nominal value. Similarly a rupee which has been diminished in weight below the prescribed percentage is cut into pieces in the Currency Office and the loss is borne by the tenderer.

Indian paper money was originally issued by the Presidency Banks of Bombay, Calcutta and Madras (amalgamated into the Imperial Bank of India in 1921), but the note-issue was taken over by the Government of India in 1861. The Reserve Bank of India took over the note-issue from the Government of India in 1935. Now all notes are Reserve Bank notes and the Reserve Bank is under obligation to convert them into silver rupees on demand.

All our coins are token coins, i.e., their face value is greater than their intrinsic value. Paper money is also token money, for its intrinsic value is *nil*. The conversion of notes into silver rupees therefore means the conversion of one form of token money into another.

6. FREE AND GRATUITOUS COINAGE : SEIGNIORAGE

When Government establishes a mint for the coinage of, say, gold, and coins gold for any one who brings it to the mint, coinage is said to be free. The gold sovereign was demonetised (or ceased to be legal tender) in England in 1925. Before the Great War there was free coinage of gold in England. Anyone could get gold turned into coins at the Royal Mint. The Mint gave £3-17-10½ for an ounce of standard gold. In practice gold was bought by the Bank of England at £3-17-9 per oz. Any one selling his gold to the Bank of England thus lost 1½d. per oz., but the Mint might keep one waiting for days, which would cause loss in interest.

Free coinage does not mean *gratuitous* coinage. Government may be ready to turn anyone's gold into coins (that is, coinage is free), but may make a charge for doing so (or coinage is not gratuitous). When no charge is made for coinage, coinage is both free and gratuitous. When the

charge made is equal to the cost of minting, it is known as *brassage*. A charge in excess of the cost of coinage is known as *seigniorage*. Seigniorage is Government's profit in coining money.

There was free coinage of silver in India till 1893. In that year the mints were closed to the free coinage of silver. Since then Government coins rupees on its account alone, and puts them into circulation.

7. CHEQUES

So far we have said nothing about cheques. Anyone may make a payment by cheque, and if the cheque is accepted, it has performed the functions of money. But cheques are not legal tender. If cheques were legal tender, anyone, having exhausted his account at a bank, might still issue a cheque which his creditor would be forced to take. The use of cheques depends on mutual trust and confidence. With the growth of banking the use of cheques has increased in India. According to Clearing House Returns, the total cheques cleared in India in 1939-40 amounted to 2,308 crores of rupees. The relative importance of cheque circulation in different parts of India is shown by the following statement:—

<i>Clearing House Returns</i>	<i>Cheques cleared in Lakhs</i>
1939-40	of Rs.
Bombay	... 8,78,25
Calcutta	... 11,49,64
Cawnpore	... 14,29
Delhi	... 20,14
Karachi	... 37,49
Lahore	... 11,07
Madras	... 99,62
Rangoon	... 97,27
Total	... 23,07,77

The total amount of cheques cleared in Calcutta, Bombay and Madras in 1911 was Rs. 4,54,51 lakhs only.

While the cheque circulation has increased considerably in recent years, cash, not cheques, is used in the great

majority of our transactions. The use of cheques is limited to the bigger towns. In the leading countries of the West cheques are used in 75 per cent and in some cases 90 per cent of the total number of transactions.

8. STANDARD COIN AND STANDARD OF VALUE

Before the closing of the mints to the coinage of silver in 1893 the rupee was a full value coin, or its face value was equal to its intrinsic value. Silver was our standard of value, and the standard of value was embodied in the standard coin, the rupee.

The British sovereign then was not legal tender in India. When silver is the standard of value, a gold coin which is used in effecting exchanges would not have a fixed value, but would fluctuate in value from day to day according to the rise or fall in the price of gold in terms of silver. A sovereign, for example, may be worth rupees 15 one day, and Rs. 15-1-0 or Rs. 14-15-0 the next day if the price of gold in terms of silver rose or fell respectively.

The sovereign was made legal tender in 1901 at Rs. 15 per sovereign. The Coinage Act of 1906 stated :—

"Gold coins, whether coined at His Majesty's Royal Mint in England or at any Mint established in pursuance of a Proclamation of His Majesty as a branch of His Majesty's Royal Mint, shall be a legal tender in payment or on account at the rate of 15 rupees for one sovereign."

The Indian Currency Committee of 1898 had recommended the establishment of a mint in India for coining sovereigns. Eventually the idea was dropped.

When the sovereign became legal tender, gold became our standard of value, and the standard of value was embodied in the standard coin, the sovereign. The rupee ceased to be our standard coin because the value of the rupee itself was determined with reference to the sovereign—a rupee was equal to 1/15th of a sovereign.

But our standard of value had changed earlier, in 1893, when the Indian mints were closed to the coinage of silver. A notification (No. 2662) was issued by the Government of India on 26th June, 1893, directing Mint Masters of the

Calcutta and Bombay Mints to receive gold coin and gold bullion in exchange for Government rupees at the rate of 7'53344 grains Troy of fine gold for one rupee on certain conditions. Two other notifications were issued on the same day. By Notification No. 2663 Treasuries of British India and its dependencies were directed to receive sovereigns in payment of sums due to the Government at the equivalent of 15 rupees and $7\frac{1}{2}$ rupees respectively; Notification No. 2664 permitted the issue of currency notes in exchange for gold coin or gold bullion at the rate of one rupee for 7'53344 grains Troy of gold. One rupee for 7'53344 grains of gold is equal to 15 rupees for one sovereign, for the sovereign contains approximately 113 grains Troy of gold.

Thus gold became our standard of value in 1893; these notifications fixed the value of the rupee in terms of gold. But our standard of value was not embodied in a legal tender standard gold coin.

It is not necessary that the standard of value should be embodied in a coin of the standard metal. We have referred above to the demonetisation of the sovereign in England in 1925. In India the sovereign ceased to be legal tender in 1927, but that did not mean that we changed our standard of value from silver to gold. In 1927 the gold value of the rupee was fixed at 18*d*; or approximately 8'475 grains Troys of gold ($\frac{18 \times 113}{240} = 8'475$; $1\text{£} = 240d$). Gold ceased to be our standard of value on 21st September, 1931 (as also in England). The rupee at present has no fixed gold value—the gold value of the rupee rises and falls with the gold value of the £ sterling. Appreciation and depreciation of the £ sterling in terms of gold is measured with reference to the dollar-sterling rate.

9. DOLLAR-STERLING

The sovereign contains 123'274 grains of standard gold, which is 11/12 fine.

Thus the sovereign contains $\frac{123'274 \times 11}{12}$ grains of fine gold (113 001.).

The United States reduced the fine gold contents of their dollar on February 1, 1934. The old gold dollar contained 23·22 grains of fine gold.

Thus the gold sovereign was equal to :

$$\frac{123\cdot274 \times 11}{12 \times 23\cdot22} = 4\cdot86\frac{2}{3} \text{ old dollars.}$$

The new gold dollar of the United States contains 13·71 grains of fine gold (41 per cent. less than the old gold dollar). The sovereign is thus equal to :

$$\frac{123\cdot274 \times 11}{12 \times 13\cdot71} = 8\cdot24 \text{ new dollars.}$$

The dollar sterling rate quoted on March 31, 1941, was £ stg. = 4·03½ dollars.

This £ stg. is obviously not the sovereign, for the sovereign = 8·24 dollars. It is the paper pound, for which the United States gives 4·03 dollars (the rate has been fixed by mutual agreement between the Governments of the United Kingdom and the United States). It follows that the depreciation of the £ stg. in relation to gold on March 31, 1941 amounted to 48·9 per cent $\left(\frac{4\cdot03 \times 100}{8\cdot24} \right)$.

The rupee is linked to sterling, or the rupee is equal to 18*d.* stg. as before, and this rate is being maintained. It follows that the fall in the gold value of the rupee is equal to the fall in the gold value of the £ sterling. If no fall had occurred in the gold value of sterling, one rupee would have been equal to 8·475 grains of fine gold. But sterling having lost 48·9 per cent of its value, the gold value of the rupee has been reduced in the same proportion. The gold value of the rupee is now equal to :—

$$\frac{8\cdot475 \times 48\cdot9}{100} = 4\cdot14 \text{ grains of fine gold.}$$

Suppose the dollar sterling rate rose to £1 stg. = 4·12 dollars. Then the depreciation of £ stg. would be exactly equal to 50 per cent, and if our exchange were still maintained at 18*d.* stg., the depreciation of the rupee in terms of gold would also be exactly 50 per cent. The gold value of the rupee in that case would rise from 4·14 grains to 4·238 grains approximately (half of 8·475 grains).

It should be clear to the reader that our standard of

value at present is not silver, and it is not gold either. It is not silver because the face value of the rupee has nothing whatever to do with its bullion value. The standard of value is not gold because the gold value of the rupee fixed in 1927 (8·475 grains) is not being maintained. The standard of value is sterling, and it will remain sterling so long as the sterling rate is maintained.

At the end of the present war, or when economic conditions become more stable, the relation of the rupee to gold would be again fixed. When that is done, India will again return to the gold standard. But, as we have seen, gold, the standard of value, may not be embodied in a coin of the same metal.

10. MONEY OF ACCOUNT

The rupee is our money of account—all accounts in our country are kept in rupees and fractions of a rupee.

Under certain conditions the money of account may be different from the money in circulation. We have referred to the heavy depreciation of the German mark in 1922-24. When money is depreciating rapidly from week to week, day to day and even hour to hour, great confusion is caused in business transactions. Suppose I borrow 20 lakh marks when £1=20 marks. In terms of pounds the loan is £1 lakh. When the loan is repaid in marks, suppose £1=20 lakh marks. The creditor is ruined, for having lent a sum equal to £1 lakh, he is repaid just £1. To guard against loss arising from depreciation of money, the creditor may insist on repayment of an equal value in pounds or dollars, which are stable in value. Similarly, all or most prices may be quoted in pounds or dollars, when actually the internal currency is marks, and goods may be exported and imported in terms of pounds or dollars. The dollar was used as the money of account in Germany in the days of heavy currency depreciation. The dollar was chosen instead of the £, because the £ had also depreciated in terms of the American dollar.

A coin has milled edges, and bears a complicated design on both sides. Its weight and fineness are known. In the

beginning unstamped metal or bullion was used in buying and selling. Suppose gold bullion is used for the purpose. Then the seller would have to carry a touchstone with him to determine the purity of gold, and a pair of scales for weighing the bullion received. A gold (or silver coin), with its weight and fineness certified by Government, is more convenient. The complicated design and milled edges of the coin make it easy to detect defacement.

CHAPTER XVII

MONEY AND PRICES

We shall now proceed to study the general relations between money and prices. Here we are not concerned to explain why the price of one thing is higher or lower as compared with that of another, but why sometimes general prices rise or fall.

By 'general prices' we mean average prices. All prices never rise or fall together. When prices are rising, particular prices may not rise, or even fall. Similarly when prices are falling, prices of particular goods and services may remain constant or even rise. But when 'average' prices rise or fall, 'general prices' are said to rise or fall.

As compared with July 1911 general prices doubled in India in the year 1920. As compared with the year 1920, general prices in the year 1937 were approximately half, and in the year 1933 less than half. General prices have risen since the outbreak of the present war.

1. ELASTICITY OF DEMAND FOR MONEY IS UNITY

Let us take a sum of money, say Rs. 100, and represent the purchasing power of each rupee by 1. We have then 100 units of purchasing power.

If the quantity of money doubled, or we had 200 rupees, and prices also doubled, the purchasing power of each rupee would be $\frac{1}{2}$. $200 \times \frac{1}{2} = 100$, or we have the same number of units of purchasing power as before. If the quantity of money increased ten times, and the purchasing power of each rupee was $\frac{1}{10}$ of what it was before, we shall have the same number of units of purchasing power as before,

100 ($1000 \times \frac{1}{10}$).

Next suppose that the quantity of money is reduced by half, or we have Rs. 50 only, but that the purchasing power of each rupee is twice as great as before. We shall have again the same 100 units of purchasing power, ($50 \times 2 = 100$).

Quantity of money multiplied by its purchasing power remains constant, if we may assume that a doubling in the quantity of money will exactly double prices, and a reduction in the quantity of money by 50 per cent. will reduce prices in the same proportion. If a given increase or decrease in the quantity of money will raise or lower prices exactly in the same proportion, the quantity of money multiplied by its purchasing power will remain constant. Under such conditions the elasticity of demand for money is said to be unity.

Is it true that prices rise and fall in the same proportion in which the quantity of money is increased or reduced? We shall begin with a simple example.

2. A SIMPLE CASE

Suppose there are five individuals, A, B, C, D and E, each with a commodity, and a sixth individual Z, with a given sum of money, say Rs. 50. All the money is to be spent on the goods; nothing, neither money nor any commodity, is to be kept back or saved. Further, Z values the goods of A, B, C, D, E equally. He will therefore buy each commodity for Rs. 10. This is our 'general level of prices.'

If Z had 100 rupees, and there was no other change in the assumptions we have made, the general level of prices would double. It must double 'necessarily and mathematically'—for 100 rupees must now be spent on the five commodities, which are valued equally.

If the quantity of money were reduced by 50 per cent. or to Rs. 25, other things remaining equal, each good would be sold for Rs. 5.

Under these hypothetical conditions, demand for money has elasticity unity. Doubling in the quantity of money halves its purchasing power, and halving the quantity of money doubles its purchasing power.

3. VELOCITY OF CIRCULATION

Let us vary our illustration.

Suppose Z spends all his money, Rs. 50, on the commodity of A, apples; A buys with Rs. 50 the commodity of B, boots; B buys the commodity of C, cloth; C that of D, a dinner set; and D, finally, with 50 rupees buys the commodity of E, eggs. In the end E gets all the money, and each commodity sells for Rs. 50.

The price level has risen five times, while the quantity of money has remained unchanged.

Each rupee in this case changes hands five times, or does five times as much work as before. When Z valued all goods equally, he bought each good for 10 rupees. Each rupee changed hands only once—it passed from the hands of Z into the hands of one of the traders. In the present case, however, each rupee passes from the hands of A into the hands of B; from the hands of B into the hands of C and so on until E gets the 50 rupees.

The rapidity with which money changes hands is known as the velocity of circulation. It is also seen that increase in the velocity of circulation from 1 to 5 has the same effect on prices as an increase in the quantity of money in the same proportion. The effective supply of money is doubled when the velocity of circulation is doubled, and quintupled (as in our illustration) when the velocity of circulation increases five times.

Let us indicate the quantity of money, which we suppose is metallic, by M, and velocity of circulation by V. Then the effective supply of money is $M \times V$, or MV.

Velocity of circulation is found by dividing expenditure (E) by the quantity of Money (M):

$$V = \frac{E}{M}$$

When Z, valuing all goods equally, bought the five goods at 10 rupees each, total expenditure was Rs. 50.

$$V = \frac{E}{M} = \frac{\text{Rs. 50}}{\text{Rs. 50}} = 1. \quad (\text{unity})$$

In the second case five goods were purchased by Z, A, B, C and D, at Rs. 50 each. Expenditure increased from

Rs. 50 to Rs. 50×5 or Rs. 250. Therefore in the second case

$$V = \frac{E}{M} = \frac{\text{Rs. } 250}{\text{Rs. } 50} = 5.$$

4. THE EQUATION OF EXCHANGE

Suppose Z with his 50 rupees buys the commodities of the trader A, B, C, D and E at the following prices :—

A's apples, 32, at 2 annas each	Cost Rs. 4
B's boots, 2 pairs at 4 Rs. per pair	„ 8
C's cloth, 16 yards at 8 annas per yd.	„ 8
D's dinner set, 1 at Rs. 28	„ 28
E's eggs, 4 doz. at 8 annas per doz.	„ 2
Total	Rs. 50

He has spent his fifty rupees which we started him with. The traders now do not get Rs. 10 each, but unequal sums. Suppose we indicate the quantity of apples by Q_1 , and the price per apple by P_1 . Then Rs. 4 paid for the apples = $P_1 \times Q_1$, or 2 as. $\times 32 = \text{Rs. } 4$.

Similarly the money spent on boots = $P_2 \times Q_2$ (Rs. 4×2), that spent on cloth = $P_3 \times Q_3$, and so on. Therefore, the total sum spent, Rs. 50, or

$$M = P_1 Q_1 + P_2 Q_2 + P_3 Q_3 + P_4 Q_4 + P_5 Q_5.$$

Our M might represent crores of rupees, and it might be spent on thousands of commodities. The sum of the quantities of different goods purchased, multiplied by the price of each good respectively, must be equal to the total amount spent. A short expression for $P_1 Q_1 + P_2 Q_2 + \dots P_n Q_n$ is ΣPQ . Sigma is a symbol of summation. We have then :

$$M = \Sigma PQ$$

where M = the quantity of money in circulation, and ΣPQ is the sum of a series, $P_1 Q_1 + P_2 Q_2 + \dots P_n Q_n$.

We have got our equation of exchange. The left side of the equation is money, and the right side, goods.

The left side of our equation is incomplete. We may allow for the velocity of circulation of money by rewriting the equation :

$$MV = \Sigma PQ$$

5. CREDIT MONEY

The money side of the equation is still incomplete. In addition to metallic money, or cash, in which we may include paper money, there may be credit money in circulation in the form of cheques and internal bills or *hundis*.

Credit money is so called because its circulation depends on faith (credit is derived from Latin *creditum*, 'what is believed.' *Creditum* is past participle of *credere*, 'to believe.') If I accept a person's cheque, it is because I trust in his good faith. Similarly *hundis* may be accepted in payment. Cheques and *hundis* have also a limited circulation.

Let us indicate credit money by M' , and its velocity of circulation by V' . Then:

$$MV + M'V' = \Sigma PQ.$$

Our equation of exchange is now complete. It states a fact which must be admitted—that the sum of the quantity of each good multiplied by its price is equal to the total effective supply of money consisting of $MV + M'V'$. It cannot be otherwise.

The equation of exchange is not in itself an exposition of the quantity theory of money. But it will help us in understanding the quantity theory.

We may first simplify the goods side of the equation of exchange further. We cannot really add up the quantities of various goods, bought and sold, for these quantities may be dozens of eggs, yards of cloth, pairs of shoes, maunds of wheat, and so on. For the sake of simplicity let us assume that all goods and services can be combined into a single mythical good which is bought and sold in units. It follows that:

$$MV + M'V' = PT,$$

where P is average price and T the number of units of our mythical good. T , in fact, stands for the total volume of trade.

If now trade or T remained constant, and the money side of the equation of exchange doubled, P must double. Let us take an example.

Let $M = 500$ Rs.

$$\begin{aligned}
 V &= 2 \\
 M' &= 200 \text{ Rs.} \\
 V' &= 1 \\
 T &= 1200.
 \end{aligned}$$

Then :

$$\begin{aligned}
 MV + M'V' &= PT \\
 500 \times 2 + 200 \times 1 &= P \times 1200.
 \end{aligned}$$

Since the two sides of an equation are equal, P must be equal to 1.

If both M and M' doubled, and there was no other change, P must double :

$$\begin{aligned}
 1000 \times 2 + 400 \times 1 &= 2 \times 1200 \\
 2000 + 400 &= 2400,
 \end{aligned}$$

6. THE QUANTITY THEORY OF MONEY

The quantity theorist insists that when M doubles, M' must double and V, V' and T will remain unchanged.

The argument runs as follows :

The most important form of credit money is cheque currency, or deposits in circulation. Bank reserves are kept in a more or less definite ratio to bank deposits, and individuals, firms and corporations maintain more or less definite ratios between their cash transactions, and also between their money and deposit balances. Convenience and habit thus fix the ratio of cash to credit, or of M to M'. If M increases, there is no reason why the ratio of M to M' should change. The doubling of M, therefore, leads to the doubling of M', or the ratio of M to M' remains unaltered.

The velocity of circulation of money and deposits depends on three sets of factors: (a) habits of the individual in regard to thrift and hoarding and the use of cheques and book-credit, (b) systems of payment in the community, and (c) general causes such as density of population and rapidity of transportation. Taking the last group first, money would pass from hand to hand more quickly where means of transportation are rapid than where they are slow, and in a densely populated district than in a sparsely inhabited desert region.

In regard to systems of payment, a change from monthly

to weekly payment of wages and salaries would tend to increase the rapidity of circulation of money and deposits. Regularity of payments increases the velocity of circulation—where payments are irregular, a larger sum has to be kept on hand.

Finally, hoarding decreases the velocity of circulation; book-credit (e.g., buying fruits from the college fruit-seller on credit, or against an entry in his books) reduces the need for keeping money on hand, and increased use of cheques prevents the accumulation of idle hoards.

It is argued that when M increases or decreases, there is no reason why V or V' should change, for V and V' are determined by conditions which have nothing to do with the quantity of money in circulation.

Why should the volume of trade change with changes in M ? Irving Fisher, the greatest advocate of the quantity theory, says:

“An inflation of the currency cannot increase the product of farms and factories, nor the speed of freight trains or ships. The stream of business depends on natural resources and technical conditions, not on the quantity of money. The whole machinery of production, transportation and sale is a matter of physical capacities and technique, none of which depend on the quantity of money.”¹

If the doubling of M must double M' and leave V , V' and T unaffected, it follows ‘necessarily and mathematically’ that P must double.

7. TRANSITION PERIODS

Irving Fisher, to whom we are indebted for the equation of exchange explained above, states clearly that “the strictly proportional effect on prices of an increase in M is only the *normal* or *ultimate* effect after transition periods are over.”² In a period of transition the rate of interest does not rise sufficiently with the rise of prices, so that enterprisers are encouraged to borrow more and more, and M' increases in a higher proportion than M . V and V' may

¹ *The Purchasing Power of Money*, p. 55.

² *Ibid.*, p. 159.

also be affected. In fact, when the depreciation of currency is heavy, the velocity of circulation increases enormously—every one wishes to convert depreciated paper money as fast as possible into goods, or to get rid of it on the first opportunity. Rising prices in a period of inflation may thus cause prices to rise ever higher and higher.

Similarly when prices are falling and the rate of interest does not fall sufficiently, enterprisers are discouraged and borrow less, so that credit money or M' may decrease more heavily than M . The rates of turnover of M and M' (V and V') may also be affected, so that falling prices may go on falling.

When, however, the transition period is over, a doubling of M will double prices, and a halving of M would halve prices. When will a transition period be over? That no one can tell.

Actually changes in the quantity of money in the sense of cash never cause proportional changes in prices. This is because there is no fixed, unalterable relation between M and M' , and when prices begin to rise or to fall, the velocities of circulation of both money and credit and the volume of trade are necessarily affected. Transition periods are never over; we are always living in a period of transition. Unceasing change is the law of economic life.

The strictly proportional effect of changes in the quantity of money on prices is a long period result, which tends to be realised, but is never actually realised.

8. HISTORICAL CHANGES IN PRICES

While changes in the quantity of money do not cause exactly proportional changes in prices, it is undeniable that abundance of money causes prices to rise and its scarcity causes prices to fall.

Adam Smith mentions the fall in the value of silver consequent upon increased production between 1570 and 1640:—

“Silver sunk in its real value, or would exchange for a smaller quantity of labour than before; and corn rose in its nominal price, and instead of being commonly sold for about two ounces of silver the quarter, or about ten shillings of

our present money, came to be sold for six and eight ounces of silver the quarter, or about thirty and forty shillings of our present money."¹

The stock of gold and silver available as money in Europe in the last years of the 16th century has been estimated at 130,000,000 pounds; at the end of the 17th century the stock of money had increased to 297,000,000 pounds.

During the 18th century the silver of Mexico was added to the supply of money and the world's net stock of money had increased to 380,000,000 pounds by 1810. Increase in money supply led to a gradual rise of prices in Europe. There was a falling off in the production of the precious metals between 1810 and 1829 and prices tended to fall, but soon after this, gold-bearing sands were found in Siberia, and in 1848-50 gold mines were discovered in Australia and California. Gold became cheaper relatively to silver and gold prices of commodities rose. Gold production increased until about 1860, when a decline set in, which lasted until 1896. Prices in Europe began to fall in about 1873, and they continued to fall until 1896, when the increase in the world's output of gold, and in the supply of credit money based on gold, led to a general rise of prices. This period of rising prices lasted till the outbreak of the Great War, when a new period of inflationary rise of prices began.

India was a heavy importer of gold and silver in the 16th and 17th centuries, but there is no evidence of any great and general rise of prices in our country on that account. This is because much of the gold and silver imported disappeared into hoards, or was melted down to make ornaments. Gold and silver can raise prices only when they go into circulation in the form of coins, not when they are hoarded. The rupee was a full value coin before 1893; the rupee could therefore be hoarded as bullion, and melted down for ornaments. It has been estimated that hoarding and melting accounted for about half of the new annual coinage before 1893.

¹*Wealth of Nations*, Book I, Chapter XI.

9. INFLATION. DEFLATION. REFLATION

Price changes may originate in the money side, or the goods side, of the equation of exchange. When a rise of prices is due to increase in gold supply, the phenomenon is described as gold inflation. More often an inflationary rise of prices is due to the over-issue, and the resulting depreciation, of paper money.

Roubles, 1917-21.—The heavy depreciation of paper money in Germany has been mentioned before. The depreciation of paper money in Russia between 1917 and 1921 was not less sensational.

	<i>Quantity of Rouble notes in circulation, in millions</i>
November 1, 1917	22,446
February 1, 1918	27,312
" 1919	60,764
" 1920	225,014
" 1921	1,168,596
July 1, 1921	2,346,139

In less than 4 years the quantity of paper money increased about 100 times.

The following statement² compares the rise of prices with the increase in the quantity of paper money:—

Period		Percentage increase in the quantity of money	Percentage rise of prices
1918 first six months	...	60	323
" 2nd " "	...	40	84
1919 first " "	...	64	300
" 2nd " "	...	125	269
1920 first " "	...	127	239
" 2nd " "	...	128	106
1921 first " "	...	101	380

²*Die Sowjet Union nach dem Tode Lenins*, by De Vries, 1925, Berlin, pp. 110-11.

The figures are interesting. In no case did increase in the quantity of money lead to a strictly proportional rise of prices. Except in the second half of the year 1920, the percentage increase in the quantity of money caused a greater percentage rise of prices, e.g., in the first half-year 1921 a doubling of the quantity of money raised prices about four times. This was due to increase in the velocity of circulation.

The value of the note circulation at various dates in terms of purchasing power is shown below :—

	<i>Millions of roubles.</i>
November 1, 1917	2,206
January 1, 1919	370·5
„ 1920	93·0
„ 1921	69·6
July 1, 1921	29·1

There was a progressive decrease in the real value of money with the progressive increase in its quantity.

There was a moderate amount of inflation in India during the Great War, which is entirely negligible as compared with inflation in Europe during the Great War and the post-war years. The addition to the monetary circulation in five years from 1914-15 to 1918-19 was about Rs. 39 crores (silver rupees 22 crores, and notes about 17 crores). But there was a heavier addition to the circulation in 1919-20—more than 40 crores in a single year. The budget deficit in 1919-20 exceeded 23 crores; practically the whole of the deficit was due to the Afghan War. The deficit was met by the issue of fiduciary currency against the Government's own I O U's or securities.

Deflation.—Deflation is the opposite of inflation. When money is pumped into circulation, like air into a bicycle or motor tube, the result is inflation of the currency and rise of prices; when money is withdrawn from circulation, the circulation is reduced and prices fall.

In most countries prices reached their highest level in the year 1920, after which they fell. The fall was due to deliberate currency deflation. Between 1920-21 and 1929-30 net withdrawals of currency in India amounted to Rs. 86 crores.

Reflation.—Reflation may be defined as a moderate amount of controlled currency inflation. Uncontrolled inflation is dangerous; it may throw the whole economic system of a country into disorder. When prices are low and it is desired to raise them, reflation is sometimes advocated. This term was added to the nomenclature of economics in the years following the Great Depression of 1929. Those who believed in monetary remedies suggested an increase in the supply of money, but not an immoderate or unregulated increase. Inflation had an evil odour about it; they preferred to call their remedy 'reflation.'

10. PRICE CHANGES MAY BE DUE TO A VARIETY OF CAUSES, BOTH MONETARY AND NON-MONETARY

The quantity theory lays too much stress on a single group of causes of price-changes, those relating to money. Price changes are actually due to a variety of causes, both monetary and non-monetary, and there is inter-action between monetary and non-monetary factors.

A heavy and world-wide fall of prices began in 1929, which was specially marked in the case of raw materials and food-stuffs. The world crisis, due to this fall of prices, is known as the Great Depression.

A Committee known as the Gold Delegation Committee appointed by the League of Nations examined the causes of the crisis. The Committee attributed the crisis to causes partly monetary in their character and partly non-monetary. The Gold Delegation Report attached considerable importance to 'economic maladjustments and instability in the post-war world.' All maladjustments cannot be interpreted as 'monetary phenomena.'

The Report draws attention to irregularity in international capital movements, which was due to a complex group of factors. (a) Violent fluctuations of prices discouraged direct investments in productive enterprises in debtor countries; (b) instability of currencies had the same effect; (c) stabilisation of currencies at levels which, in some cases, did not correspond to the domestic price levels,

caused speculative movements of short-term capital; (d) the growth of short-term investments was an important cause of financial instability—French investors, particularly, preferred this form of investment; (e) there was a reduction in England's share in international capital investments, and (f) lending by the United States was irregular in volume. The Report next refers to profound changes in the structure and localisation of industries, both primary and manufacturing. Beet-sugar had again started competing with cane-sugar, and there was growing competition between European wheat-areas and those of North and South America and Australia. The industrial organisation was becoming more elaborate and more rigid, and the process of manufacture more complex. There was evidence of over-investment in certain industries, and over-investment 'rendered production more difficult of adjustment to changing demand.' As a result, the free adjustment of supply to demand had become much restricted: 'The cartellisation of industry and various forms of price control, pools and control boards of primary products, valorisation⁵ schemes and their like have all tended to render the economic system unduly rigid.' Another cause of the increasing rigidity of the economic system was the comparative inflexibility of wages, and the heavy cost of the 'semi-fixed' charges for unemployment benefits and social services. Increasing rigidity in production and distribution implied 'loss of tensile strength'—an important source of various maladjustments.

On the side of demand, the Gold Delegation Committee noted that with the growth of production and wealth, consumers wanted more of non-essential commodities and services, so that demand tended to become more capricious.

We shall be in a better position to understand the operation of some of these causes at a later stage of our study; it will be sufficient to note here that changes in the quantity of money alone cannot account for a rise or fall of prices.

⁵Price stabilisation, as has been attempted in the case of coffee in Brazil and cotton in the United States.

11. OVER-PRODUCTION

Over-production can bring about a fall of prices, and over-production is not a monetary phenomenon. During the first three years after the annexation of the Punjab the harvests, with a few isolated exceptions, were remarkably favourable; production had exceeded consumption and a heavy fall of prices occurred which made it difficult for peasants to pay the land revenue. The cause of the fall of prices lay in the goods side of the equation of exchange, not in the money-side. We should explain nothing by suggesting that the fall of agricultural prices in 1849-51 in the Punjab was due to an extraordinary scarcity of money which suddenly manifested itself.

Technical progress played an important rôle in augmenting production in the years preceding the Great Depression. When production increases and effective demand does not increase proportionately, prices fall.

Prof. Lionel Robbins regards 'over-production' in the pre-crisis years as a 'misconception'; he seems to favour the explanation of the Great Depression in monetary rather than non-monetary terms. In regard to the effects of 'over-production' he says:—

"Let us suppose that, owing to technical progress, the supply of wheat increases. Let us suppose further that, owing to the relatively inelastic nature of the demand for wheat, the price of wheat falls more than proportionately, and the producers of wheat have therefore lower incomes. Does this mean that that much purchasing power will have disappeared from the world? Not at all. It is true that the wheat producers will have less to spend. But the consumers, who now get more wheat for a smaller outlay, will have more money left over. It may very well be that they will not spend this increase on exactly the same things that the wheat producers would have purchased. But they will be in a position to buy more of something; and this will render any reshuffling of the labour force which the changed direction of demand makes necessary, a comparatively easy process."⁴

⁴ *The Great Depression*, pp. 15-16.

In the year 1924-25 wheat exports from India were valued at Rs. 17 crores and the quantity exported exceeded 1 million tons. In 1931-32 we exported 20,215 tons of wheat in all, valued at Rs. 15 lakhs, or wheat exports disappeared. The over-production of wheat in the world and the cessation of wheat exports from India combined to reduce the price of wheat by about two-thirds and the purchasing power of our peasants decreased heavily.

Does it mean that the purchasing power lost by our peasants disappeared from the world? "Not at all," Prof. Robbins would say. The world consumers of wheat gained. They were in a position to buy more of 'something.' We may assume that they did not hoard what they saved—Prof. Robbins rules out altogether the possibility of hoarding of this sort. Well, then, industrial workers in manufacturing countries had more money to spend on 'something.' How did that benefit agricultural countries? A fall in the price of the more important agricultural products (or two only, wheat and cotton) impoverished millions of workers in agricultural countries.

It may be admitted that consumers of raw materials and food-stuffs in agricultural countries also gain by a fall in their prices; and they may also buy more of 'something.' But the reshuffling of the labour force on account of the change in demand is 'a comparatively easy process' only in 'pure' theory. Only an infinitesimally small proportion of our starving peasants have found employment in manufacturing industries; the expansion of industrial production in foreign countries does not create employment for them.

The result in these circumstances is a heavy fall in imports, so that manufacturing countries do not escape injury. Exports of Indian merchandise declined from Rs. 330 crores in 1928-29 to Rs. 156 crores in 1931-32, and imports of foreign merchandise from Rs. 251 crores to Rs. 126 crores in the same period. An unprecedented contraction of world trade was the inevitable consequence of the Great Depression, or the crisis spread from agricultural to manufacturing countries.

12. EFFECTS OF APPRECIATION AND DEPRECIATION OF MONEY

When general prices fall, money is said to appreciate, or its purchasing power increases. A general rise of prices causes money to depreciate in value, or its purchasing power falls.

Changes in prices affect different sections of the community differently.

Classes with fixed incomes gain by a fall and lose by a rise of prices. When prices rise, wages generally lag behind. Real wages therefore suffer a fall. Similarly when prices fall, money-wages are not reduced in the same proportion, and real wages increase.

The Small holder.—It may seem that a rise of prices must benefit an agricultural country. But a great and general rise of prices is not an unmixed blessing to any country. In a memorandum submitted to the Babington Currency Committee of 1919 the Government of India said :

"There is no longer any room for doubt that the resultant increase in the expense of living due to the high prices of food-grains, as also of other necessities such as cloth and kerosine oil, and the hardship which the increase has entailed on the poorer classes and those on fixed incomes, has been a very important factor in promoting unrest and discontent."[†]

Further, in our country, a great majority of peasants do not possess any very large surplus produce which may be sold at a profit. They are small holders. A rise in prices, it is admitted in the *Report of the Land Revenue Committee, Punjab (1938)* does not benefit a small holder proportionately.⁵ The Report goes on :—

"In the Murree tahsil and the Salt Range, both areas of very small holdings, the fall in the price of wheat came as a blessing, since more wheat is commonly purchased than sold. Even for the somewhat larger holder who cultivates eight to twelve acres, a rise of prices is far from being the

[†] Para. 48 of the Report.

⁵ Para. 97.

advantage that it is to the more substantial holder of the canal colonies; and if, as is often the case, he depends upon cash resources, drawn, for example, from emigration and service, it may even be an evil, as the purchasing power of the rupee will be less."

The present writer recalls with interest what he wrote on this subject many years ago (article in the *Tribune*, 16th of February, 1917, reprinted in *Essays on Indian Economic Problems*, 1919).⁶

"It cannot be denied that large farmers have profited greatly on account of the rise of prices. They have enough land. They produce not only for their own consumption but for the market. Those who have a surplus to dispose of are naturally pleased when they can sell it at a high price. The higher the price the greater is their profit. With Professor Chiranjiva Lal of the local Dyal Singh College I made some enquiries on this subject in December, 1916, in the Ferozepore and Hoshiarpore Districts, which confirm this view. '*Saste ich kah da faida*,' said Kashi Ram Brahman, aged 60, a large farmer of Phambian, Hoshiarpore District. He has 20 *ghumauns* of land of his own and more land acquired by mortgage. He produces wheat, gram, maize, pulses, flax and *patsan* and sugarcane. The higher the price Kashi Ram gets for his products in the market, the more he is pleased. '*Saste ich kah da faida*,' he may well say. So also thought Nikka Jat of Bhindori, Hoshiarpore District. He has about 14 *ghumauns* of land. He produced during 1916, 80 maunds of *kanak chhole*, 24 maunds of maize, some *chara* for his cattle and some sugarcane. He did not require more than 30 maunds of *kanak chhole* for the consumption of the family during the year. The higher the price at which he can sell what he does not want for personal consumption, the greater is his profit. Take another example, Jange Khan Rajput of Phambian has 23 *ghumauns* of land. He produced during 1916, 100 maunds of *kanak*, 20 maunds of *chhole*, 10 maunds of *masur*, 8 maunds of barley, 100 maunds of maize, besides fodder for his cattle. Jange Khan supports a large family, but he was able to sell *kanak* worth about Rs. 150 and *jwar* worth Rs. 80. *Kamad* is a valuable crop but Jange Khan produced only a small quantity. Jange Khan sold *kanak* at 14 seers per rupee and *jwar* at 18 seers per rupee (1916). If prices had been 7 seers and 9 seers respectively, Jange Khan would have made Rs. 460 instead of Rs. 230.

"It may, however, be pointed out that a general rise of prices is not an unmixed blessing to any farmer, be he large or small. The farmer has no need to buy food-stuffs or milk or ghee or fodder for cattle, but he spends a certain amount of money every year on iron, cloth and other miscellaneous articles. When all prices rise, his expenditure must increase. To this extent he is injured by the rise of prices. As it was explained to

A rise of prices, however, benefits every land-owner in the sense that land revenue can be paid by selling a smaller quantity of agricultural products.

While a great rise of price is not an unmixed blessing a heavy fall of agricultural prices is ruinous to an agricultural country. The effects of the fall of prices since 1929 on agriculturists and the country generally may be thus briefly summarised :

1. The fall of prices has made agriculture unremunerative over a great part of the country. The average net income per acre of the farms, excluding Risalewala, included in the *Punjab Farm Accounts* (calculated without including wages for the cultivator and working members of his family in

us—*buryan da kapra rangna honda hai tan rupaya lag janda hai.*

"So far we have dealt with the case of a farmer who has enough of land. But the great majority of farmers have not enough of land. By this is meant that their holdings are very small and that what they produce barely suffices for their own consumption. We questioned a number of small farmers on this point and cross-examined them very closely, but the replies that we got were of the same nature. A typical answer was that of Hassu, Arain, aged 45 of the village Rania in Moga Tehsil. 'Main bechan tan mehngiai da savad ae; dane khan joge nahin honde; sanu mehngiai da ki savad ae.' Another farmer said: 'Chhote zamindaran da tara sada undha hi rehnda hai.'

"Other replies received were: 'Masan logan de dhidd pure honde hain.' 'Masan dang tapda hai.' 'Taklif buhteri hai tusi jande ho. Vahi karke kakh nahin bachda. Har sal das bis charh jande hain.' 'Zindgi masan basar karde hain.' 'Har vakt inhan nun fikr hi lage rehnde hain.'

"Almost every small farmer is in debt. It should not be supposed that extravagance on the occasion of a marriage or a funeral is the only cause of his indebtedness. Not infrequently he borrows to pay *m'amla* to the Sarkar. 'M'amla le ke daida hai, har bar m'amla le ke daida hai,' said Hassu whose debts amounted to Rs. 120. The rate of interest that a small farmer has to pay is, in most cases, exorbitant. A larger farmer is able to borrow on easier terms because of the better security he can offer for the loan: 'sharah sud hasb haisiyat qarza girinda ke hoti hai' said a village official.

"Our conclusion is that the small farmer has very little to gain by the rise in the price of agricultural produce. The farmer is a gainer only when he produces more than what is sufficient for his own requirements; he is a loser when he produces less than that quantity. When his production is barely sufficient for his consumption, it is a matter of indifference to him whether corn is selling at a high or at a low price." (*Essays on Indian Economic Problems*, pp. 91-95.)

expenditure) fell from Rs. 27-0-9 in 1928-29 to Rs. 3-15-7 in 1930-31 and amounted to Rs. 14-15-5 in 1934-35.

2. The condition of the tenant is still less favourable than that of the peasant-proprietor. In the case of the tenant-cultivator the fall of prices means that he works almost entirely for the benefit of the non-working landlord.

3. The burden of rural debt has increased beyond the capacity of the borrower to pay.

4. The burden of Government dues (land revenue and water-rates) has increased. There is a great deal of evidence to show that in recent years peasants have paid Government dues by selling gold and ornaments.

5. What the peasant buys is dearer and what he sells is cheaper than before. For example, the annual index number for metals (Calcutta) was 140 in 1938 and that for cotton manufactures 106, as compared with cereals 72 and raw cotton 67. This operation of 'the scissors' is an additional cause of hardship to the rural population.

6. The country as a whole is a loser since it has to part with a larger quantity of primary products than before to obtain a given quantity of manufactured imports.

7. Imports of the value of over Rs. 350 crores have been paid for by the export of gold, or the country has been living on its capital.

Debtor and Creditor Relations.—Heavy and limitless depreciation of money wipes out the burden of debt. The debtor is benefited at the cost of the creditor.

Inflation in Germany in post-war years laid the foundation of many large fortunes. It created 'Inflation Kings.' *Koenige der Inflation* (Kings of Inflation) is the title of a book whose second edition appeared in 1924. It describes the rise to fortune of Hugo Stinnes, a German shipping magnate, and nine other 'kings of inflation.' The rise of prices lightened the burden of debt under which German industry was groaning. Money wages were continually rising, but not in the same proportion as prices; besides, Government assistance freed the industrialists from their obligations to workers, and their profits increased rapidly. A story is related of Germany of those days. Hans and Dieter, two brothers, inherited a million marks each. Hans

put his money in a bank and lived on interest. Dieter, who loved wine, filled a cellar with that commodity and began to empty it. When inflation came, the deposit of Hans in the bank was reduced in purchasing power to a few annas, while Dieter made a fortune by selling empty bottles.

People in all parts of the world invested money in marks in 1921-24. They became creditors of Germany. The creditors lost heavily when the mark was stabilised in 1924 at the rate of one billion paper marks = 1 gold mark (about 12 annas).

As a rise of prices reduces the burden of debts, a fall increases it. The total rural debt of India was estimated by the Indian Banking Enquiry Committee in 1929 at Rs. 900 crores. The fall of prices after 1929 approximately doubled the burden of this debt.

Rate of Interest.—When prices are rising, the rate of interest rises; with a fall of prices the rate of interest falls. Producers can afford to pay a higher rate of interest when prices rise since they earn more profits. The demand for loans increases when the rise of prices is greater than the rise in the rate of interest. When prices fall, profits decrease and the demand for loans contracts; the rate of interest falls.

13. STEADY PRICES ARE BEST

It is sometimes argued that gently rising prices are good for trade and industry, on account of their exhilarating effects on the minds of producers. But they depress workers with fixed incomes when their wages lag behind prices. Falling prices tend to depress business men, but they should not have that effect when the fall is due to technical progress.

On the whole steady prices are best. But in a progressive community prices should fall slowly with the expansion of production made possible by improvement in the methods of production. Such a fall of prices does not involve either cuts in wages or diminution in profits.

APPENDIX TO CHAPTER XVII.

Demand for Money

Attention may be drawn here to the peculiar meaning attached by recent writers to the term 'demand for money.'

The left or money-side of Fisher's equation of exchange, MV , represents the effective supply of money, and T on the right side, the demand for money, so that $MV=PT$. The demand for money thus arises from trade, or the total volume of production. The demand for money, thus regarded, is not a demand for money for its own sake, but for exchange. This view of the demand for money is fundamentally sound; it has the sanction of commonsense behind it, and also the authority of Marshall. Money or currency, says Marshall, 'is desired as a means to an end.'¹ He compares money 'to oil used to enable a machine to run smoothly.' "Money," Marshall insists, "is not desired mainly for its own sake, but because its possession gives a ready command of general purchasing power, in a convenient form. A railway ticket is desired for the sake of the journey over which it gives control."²

We owe an apology to the reader for seeking the support of Marshall to establish a point which is perfectly simple and only too obvious.

It follows that expansion of production, or growth of business transactions, will increase the demand for money, the medium of exchange. The enormous increase in production in the United Kingdom in the latter half of the 19th century necessitated an increase in the supply of media of exchange. The new money was provided by England's cheque-paying banks. The demand for money in this sense has considerably increased in India since 1890.

¹*Money, Credit and Commerce*, p. 38.

²*Ibid.*, p. 38.

Recent writers tend to forget the essential function of money as a medium of exchange. In their anxiety not to break away from the general theory of value in the discussion of the value of money, they treat the demand for money as a direct demand, or as a demand for money for its own sake, and not as a medium of exchange.

For example, Prof. Edwin Cannan speaks of currency as 'one of the durable instrumental goods, such as houses.'³ We agree with him that "the demand which is important as affecting the value of the houses is the demand for occupation." But is currency mainly desired as a medium of exchange, or to *hold*? Prof. Cannan says: "The demand which is important for our purpose is the demand for currency, not to pay away again immediately, but to *hold*. Just as you are a less important demander of houses if you occupy a £1,000 house than if you occupy a £2,000 house, so you are a less important demander of currency if you keep on the average £5 in your pocket than if you keep £10."⁴

The supply of money consists of the cash and credit created by the monetary and the banking system of a country, and the demand for money is the quantity of money which people want to *hold*, or hoard, or keep in their hands. The value of money is determined by the relation of the supply of money to the demand for money thus defined—or in explaining changes in the general purchasing power of money, we have no use for T at all! The function of money as a medium of exchange may be completely ignored!

But, it might be said, that the equation of exchange does not attach sufficient importance to the demand for money for its own sake, or to the demand for money to *hold*. This is incorrect. The holding or hoarding of money affects the velocity of circulation, and thus the effective quantity of money. If more money is held the effective quantity of money decreases; if less money is held, as when money is depreciating rapidly, the effective quantity of money increases. This is admitted by New Economics. For example Benham says: "Instead of speaking of an increase

³Money, p. 65.

⁴Ibid., pp. 72-73.

or decrease in the velocity of money, we can speak of a decrease or increase in the demand for money."⁵ The demand for money is thus connected with the velocity of circulation. Demand for money in the sense of velocity of circulation, together with the supply, is supposed to determine the value of money.

If the demand for money in the direct sense is only a factor affecting the velocity of circulation, it is a factor determining the effective quantity of money or supply. It is not demand in the true sense.

The price of oranges is determined by the general relations of supply and demand. Demand for oranges is fundamentally different from supply; it is not a supply factor, but an independent variable. The supply of oranges remaining the same, a growing taste or distaste for oranges will cause changes in their price.

Suppose more oranges are *held* by the growers. This would influence the price of oranges, but by reducing supply. To argue that the oranges *held* represent the demand for oranges which, together with the supply of oranges, determines the value of oranges would be to argue that value is determined by the inter-action of two supply factors.

The reader should carefully note that the direct demand for money to hold is not the demand for money as a medium of exchange, which is determined by the volume of trade or the total number of transactions. It cannot be denied that the expansion of production increases the demand for money as medium of exchange. It cannot be denied that the holding of more or less money causes changes in the velocity of circulation. It cannot be denied that a change in the velocity of circulation changes the effective quantity or supply of money. If all this is undeniable, it is impossible to maintain that the direct demand for money, together with the supply of money, determines the value of money. The direct demand for money, together with the supply of money, only gives us MV or the supply of money. The supply of money by itself cannot determine the value of money.

⁵*Economics*, new ed. p. 386.

CHAPTER XVIII

INDEX NUMBERS

There are several kinds of index numbers. First we shall deal with index numbers of prices.

An index number is a number which is taken to represent the price of a chosen commodity at a selected date which is used as a standard for comparing the price of the same commodity at later dates.

Let us take an example :—

Commodity	1st January 1941		1st January 1942	
	Price	Index No.	Price	Index No.
Wheat per maund ...	Rs. as. 2 8	100	Rs. as. 3 8	140
Ghee per maund ...	50 0	100	60 0	120
Firewood per maund ...	1 0	100	1 0	100
Cotton cloth per yard ...	0 4	100	0 3	75
Sugar per seer ...	0 5	100	0 2½	50
Total ...		51500		51485
Average ...		100		97

There are five commodities. The price of each on a particular date in 1941 is represented by 100. The selected year is called the 'base' year, for the change in prices in subsequent years will be determined with reference to this year. We suppose that the price of wheat rises from Rs. 2-8-0 in the 'base' year to Rs. 3-8-0 on the corresponding date in the following year. The percentage rise is 40, and we therefore write 140 against wheat under 1942. The price of sugar is supposed to fall from 5 annas per seer to

2½ annas. The 100 of the base year is thus reduced to 50.

The average of the five index numbers for 1941 is 100, and that for 1942, 97. The 'level of prices' has thus fallen by 3 per cent.

■ The price of a commodity in the 'base' year may not be the quotation for a single day but the average of prices during a week, or a month, or a longer period.

✓ The average index number is found by adding up the index numbers of the chosen articles and dividing the total by the number of the articles. In our example 97 is the *arithmetic* average of the index numbers for 1942.

But we may take the *geometric* mean. This is

$$\sqrt[5]{140 \times 120 \times 100 \times 75 \times 50} = 91.$$

Most often the arithmetic average is employed in the construction of index numbers. The arithmetic average is more influenced by the bigger and the geometric average by the smaller items.

Let us take another example. There are two articles, ghee and coal:—

Commodity		1941		1942	
		Price	Index No.	Price	Index No.
Ghee	...	Rs. as. 50 0	100	Rs. as. 75 0	150
Firewood	...	1 0	100	0 8	50
Total	...		2)200		2)200
Average	...		100		100

Ghee rises by 50 per cent., but firewood falls by the same percentage, so that the arithmetic average neither rises nor falls. The 'level of prices' has remained unchanged, while in fact both prices have changed. Our average is decidedly misleading. The geometric average is

$$\sqrt{150 \times 50} = 86.6.$$

➤ A leading writer on index numbers, Irving Fisher, takes the strongest exception to the use of the arithmetic average in the construction of index numbers.

An average index number is only a conventional method of measuring price changes. The average index number is also sometimes called the general index number to distinguish it from the index numbers of individual commodities.

A 'general rise or fall of prices' thus only refers to a rise or fall in the level of prices as indicated by the movement of an average. It is also seen that the average may not coincide with the price change in any commodity. It is like a suit of clothes made for the 'average' man, which may not exactly fit any individual.

1. WEIGHTING

Of the five selected articles in the table given above all are not equally important in the monthly consumption of a household. A family may well spend in a month Rs. 30 on ghee, Rs. 15 on wheat, Rs. 10 on firewood, Rs. 5 on sugar, and Rs. 5 on cloth. A rise in the price of wheat and ghee will be of greater significance to the family than the fall in the price of cloth and sugar. Our index number for 1942, 97, is unweighted, that is, it assigns equal importance to all commodities. We may 'weight' our average by multiplying the index numbers of the different commodities by numbers proportional to the degree in which income is spent on them :—

Commodity		1941 Index Nos.	1942 Index Nos.
Wheat	...	$100 \times 3 = 300$	$140 \times 3 = 420$
Ghee	...	$100 \times 6 = 600$	$120 \times 6 = 720$
Firewood	...	$100 \times 2 = 200$	$100 \times 2 = 200$
Cotton Cloth	...	$100 \times 1 = 100$	$75 \times 1 = 75$
Sugar	...	$100 \times 1 = 100$	$50 \times 1 = 50$
Total	...	13)1300	13)1465
Average	...	100	113

We represent the importance of sugar and cotton cloth by 1 each, of firewood by 2, of ghee by 6 and of wheat by 3, these figures being proportional to the degree in which income is spent on them. Since ghee is taken as 6 articles, wheat as 3 articles, etc., the number of articles increases to 13.

The weighted index number (arithmetic average) is 113, or the 'price level' has risen by 13 per cent. as compared with the base year.

What we have done with 5 articles might be done with 40 or 75.

Cost of living index numbers, constructed to show changes in the cost of living for a particular section of the community, *e.g.*, industrial workers, would include objects on which the income of workers is spent. They may be weighted according to the importance of each item of expenditure in workingmen's budgets.

Index numbers of wholesale prices are sometimes weighted according to the relative importance of the articles in exports and imports.

Most index numbers of prices are, however, unweighted. The selection of proper weights is difficult, and when a large number of articles is taken, weighted and unweighted index numbers give practically the same result.

For index numbers of general prices, wholesale prices are best. They are more uniform and more easily ascertained. They also apply to a larger area, and are more sensitive to changes in supply and demand than retail prices. Retail prices are more useful for cost of living index numbers, for these are the prices which consumers actually pay.

The articles chosen should be representative in character. It is impossible to include thousands of articles in a table of index numbers; neither is it necessary. Cotton yarn and cotton cloth can well represent the whole group of cotton manufactures; hides and skins, leather articles; and gunny bags, all jute manufactures.

Consumption changes over long periods of time. New articles have sometimes to be included in a table of index numbers, and some old articles dropped.

2. INDEX NUMBERS OF INDIAN PRICES

We possess four series of index numbers of wholesale prices. The oldest series is index numbers constructed by the Commercial Intelligence Department, comprising 28 exported and 11 imported articles. The series is unweighted, and begins with the year 1861 (1873=100).

The other three series are for Bombay (40 articles) Karachi (23 articles) and Calcutta (72 articles). The last is most generally used. All the three series are published monthly. The following table shows the annual average index numbers of wholesale prices at Calcutta for 1931 and 1940 by groups of articles (end of July 1914=100).

Index Nos. Calcutta Series

Commodity Groups			1931	1940
Food-grains: Cereals (8)	...	...	78	99
Pulses (6)	...	...	89	101
Sugar (5)	...	...	135	157
Tea (3)	...	...	86	149
Other food articles (9)	...	...	111	146
Oil-seeds (3)	...	...	82	106
Oil, Mustard (2)	...	...	68	78
Textiles: Jute raw (3)	...	...	49	79
Jute manufactures (4)	...	...	76	107
Cotton Raw (2)	...	...	83	87
Cotton manufactures (7)	...	...	123	122
Other textiles, wool and silk (2)	...	...	68	146
Hides and skins (3)	...	...	67	72
Metals (6)	...	...	109	175
Other raw and manufactured articles (8)	...	...	101	115
Building materials (Teak-wood) (1)	...	...	150	127
All commodities (72)	...	...	96	120

Weighting is indirectly introduced when 3 varieties of tea, 3 varieties of raw jute, 2 varieties of raw cotton, etc., are taken.

The Calcutta index number fell from 96 in 1931 to 87 in 1933, thereafter rose to 102 in 1937 and after falling to 95 in 1938 rose to 120 in 1940.

In December 1940, the Bombay index number stood at 118, and the Karachi index number at 117.

As many as 12 cost of living index numbers are published monthly in India. The figures for December 1940 for 5 centres are reproduced below :—

Cost of Living Index Nos.

Groups	Bombay (a)	Ahmed- abad (b)	Shola- pur (c)	Nagpur (d)	Jubbul- pur (d)	Madras (e)
Food ...	128	72	73	72	67	109
Fuel & Lighting	104	84	89	71	61	142
Clothing ...	96	78	68	70	88	117
Miscellaneous ...	99	100	63	90	95	103
Rent ...	100	107	107	—	—	100
Cost of living...	115	79	76	72	69	110

(a) Average prices from July 1933 to June 1934=100. (b) Average prices from August 1926 to July 1927=100. (c) Average prices from February 1927 to January 1928=100. (d) Base January 1927=100. (e) Average prices from July 1935 to June 1936=100.

3. SERVICES OF INDEX NUMBERS

With the help of index numbers we are able to measure changes in the purchasing power of money. If general prices double, as shown by the average index number, the purchasing power of money on the average has been halved.

The movement of the cost of living index number shows whether real wages are rising or falling, money wages remaining unchanged. From the table of cost of living

index numbers given above it is clear that, as compared with pre-crisis years (*i.e.*, before 1929), the purchasing power of wages has increased, while as compared with post-crisis years (1933-34 Bombay, 1935-36 Madras), it has fallen.

All leading countries, with the sole exception of the Soviet Union, regularly publish index numbers of prices and cost of living index numbers.

The movement of prices in different countries may be studied with the help of index numbers. But no comparison can be made regarding the *extent* of the rise of or fall of prices in different countries, as the index numbers of different countries are differently constructed. The 'base' is different and the number of articles included in each index number is also different.

Index numbers may furnish a standard to keep general prices steady, in order to keep trade stable. We have argued that steady prices are best on the whole (though benefits of progress can accrue to the community only through slowly falling prices, the degree of the fall corresponding to the degree of economic progress). But prices are never steady—they are constantly rising and falling. It may be possible to devise means for controlling prices, through the regulation of the supply of money and credit and of production. Quantity theorists would seek to control a rise of prices by means of currency deflation, and falling prices by the injection of money into circulation. Others may attach more importance to the regulation of the output of goods and services. In either case it would be necessary to know how prices were fluctuating.

Index numbers furnish a basis for the equitable discharge of long-time debts. We have seen that when prices rise the debtor gains at the cost of the creditor, and that when prices fall the burden of debt increases. At the present time the burden of rural debt in India has increased beyond the capacity of rural borrowers to pay. When agricultural prices fell, peasants in all countries got involved in difficulties, and the government, almost in every country, granted them relief in one form or another. A debt is not equitably discharged when the purchasing power that the borrower returns is half, or twice as great as the purchasing

power that he borrowed. A table of index numbers, which reliably measures changes in the purchasing power of money, may be used to regulate long-time debts. When it is so used, it is known as the tabular standard of value. So far index numbers have not been used for this purpose in any country.

Index numbers of prices which are useful for one purpose may not be useful for another purpose. For example, it is possible for general prices to rise when the prices of goods and services which most largely enter into the consumption of a particular social class, e.g., industrial workers, are stationary, or even falling. And cost of living index numbers constructed for the working classes are of little use for the upper classes.

Over a long period the quality of an article may change. The price of ghee in the time of Akbar was 21 lbs. per rupee, or over 10 seers for a rupee. One gets less than a seer of ghee for a rupee now, and that adulterated ghee. It may be presumed that ghee was purer in Moghul times. The Moghul Kings used to cut off the heads of those who exported the precious metals, and they were quite equal to cutting off the nose, or ears, or both organs, of an adulterator.

4. AGRICULTURAL PRICES

Index numbers of agricultural prices over a long period sometimes do not reveal their full meaning without being subjected to statistical operations.

We shall take wheat prices from 1861 to 1937 as an example.

Agriculture revolves in a cycle. Our wheat prices, particularly from 1861 to 1910, show recurring years of high prices at intervals of about 10 years (1869, 1879, 1888, 1897, 1908), but the price movement, while retaining its cyclical character, is irregular. This irregularity can be largely smoothed out by means of a statistical device.

Table 1 given below (col. 2) shows the annual average price of wheat in India (retail). Fig. 54 shows two curves, the

smoother curve running, as it were, into the middle of the curve of annual prices.

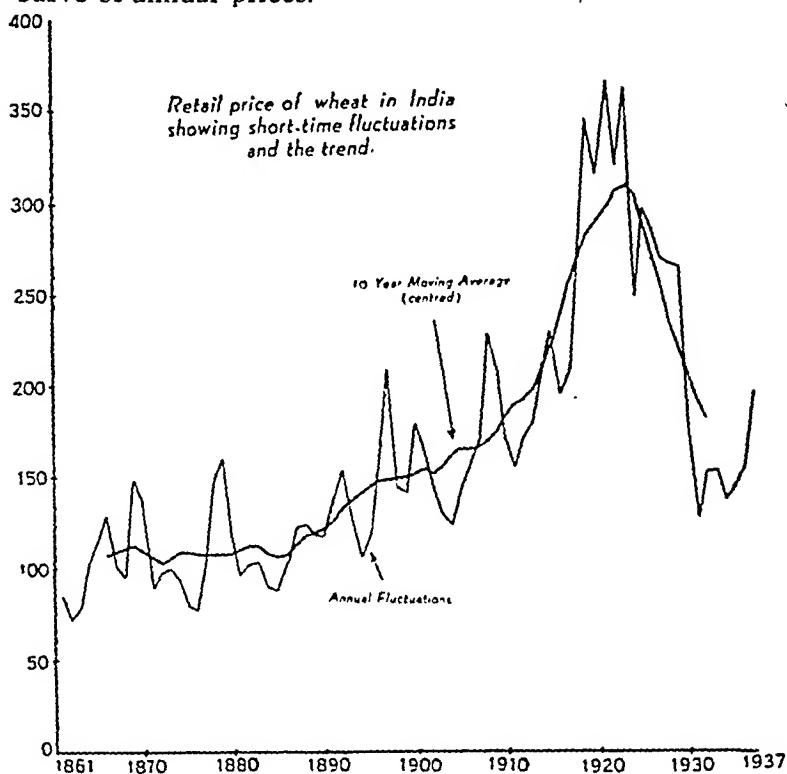


Fig. 54

Table 1

Index Numbers of the Retail Price of Wheat. 1873=100

1	2	3	4	5	6
Year	Annual average	10 yearly moving average		10 yearly moving average (centred)	Deviation from Moving Average
		Total	Average		
1861	86				
2	73				
3	80				
4	102				
5	115				
6	129	1066	107		
		1070	107	107	+22

1	2	3	4	5	6
Year	Annual average	10 yearly moving average		10 yearly mov- ing average (centred)	Deviation from Moving Average
		Total	Average		
7	101			109	- 8
8	96	1095	110	111	-15
9	148	1115	112	112	+36
1870	136	1107	111	109	+27
1	90	1073	107	105	-15
2	98	1022	102	102	- 4
3	100	1023	102	105	- 5
4	94	1074	107	108	-14
5	81	1084	108	108	-27
6	78	1066	107	107	-29
7	102	1072	107	108	- 6
8	147	1075	108	108	+39
9	158	1078	108	108	+50
1880	118	1075	108	108	+10
1	96	1083	108	110	-14
2	101	1108	111	112	-11
3	103	1127	113	112	- 9
4	91	1103	110	108	-17
5	89	1063	106	106	-17
6	103	1062	106	108	- 5
7	121	1103	110	113	+ 8
8	123	1153	115	117	+ 6
9	118	1177	118	119	- 1
1890	117	1191	119	121	-
1	137	1218	122	125	+12
		1268	127		

1	2	3	4	5	6
Year	Annual average	10 yearly moving average		10 yearly moving average (centred)	Deviation from Moving Average
		Total	Average		
2	151			131	+20
3	127	1353	135	136	- 9
4	105	1373	137	139	-34
5	116	1395	140	143	-27
6	153	1454	145	147	+ 6
7	206	1477	148	148	+58
8	143	1468	147	147	- 4
9	140	1470	147	148	- 8
1900	176	1488	149	150	+26
1	160	1514	151	152	+ 8
2	142	1516	152	150	- 8
3	129	1478	148	152	-23
4	123	1561	156	159	-36
5	142	1624	162	162	-20
6	155	1618	162	162	- 7
7	168	1611	161	163	+ 5
8	226	1639	164	167	+59
9	203	1687	169	173	+30
1910	170	1764	176	181	-11
1	153	1849	185	187	-34
2	170	1887	189	191	-21
3	177	1924	192	195	-18
4	200	1968	197	204	- 4
5	227	2106	211	218	+ 9
6	193	2246	225	235	-42
		2453	245		

1	2	3	4	5	6
Year	Annual average	10 yearly moving average		10 yearly moving average (centred)	Deviation from Moving Average
		Total	Average		
7	205	2598	260	253	-48
8	270	2777	278	269	+1
9	341	2823	282	280	+61
1920	310	2890	289	286	+24
1	360	2978	298	294	+66
2	315	3040	304	302	+13
3	356	3034	303	304	+52
4	246	2955	296	300	-54
5	294	2822	282	289	+5
6	281	2588	259	271	+10
7	267	2423	242	251	+16
8	264	2218	222	232	+32
9	262	2107	211	217	+45
1930	177	1954	195	203	-26
1	126	1825	183	189	-63
2	150	1745	175	179	-29
3	151				
4	135				
5	141				
6	152				
7	187				

5. THE TREND

Moving averages, which have been mentioned before, are of very great use in finding the trend of prices when

price changes show a cyclical character and a trend.

We shall take a theoretical example to explain our meaning.

Let us suppose that the price of an agricultural commodity rises and falls in the manner shown in column 2 of the table given below :—

Table 2

1	2	3	4	5	6	7
Year	Index Nos. of prices.	5 yearly moving average	Supposed trend	Index Nos. of prices with trend added	5 yearly moving average with trend	Deviation (+) or (-) of prices in col. 5 from moving average
1901	110	...	0	110	...	...
2	115	...	2	117	...	...
3	130	120	4	134	124	+10
4	125	120	6	131	126	+ 5
5	120	120	8	128	128	0
6	110	120	10	120	130	-10
7	115	120	12	127	132	- 5
8	130	120	14	144	134	+10
9	125	120	16	141	136	+ 5
1910	120	120	18	138	138	0
1	110	120	20	130	140	-10
2	115	120	22	137	142	- 5
3	130	120	24	154	144	+10
4	125	...	26	151	...	...
5	120	...	28	148	...	...

The period of the cycle is 5 years, and the cycle exactly repeats itself. These prices (col. 2) have no 'trend.'

Let us take 5 yearly moving averages of prices in col. 2. The total of index numbers for 1901 to 1905 is 600, which, divided by 5, gives 120. We set this figure down in the middle of the period 1901-1905, or against the year 1903. Next we take the years 1902-1906, and so on. The result is a straight line (see Fig. 55) without any slope.

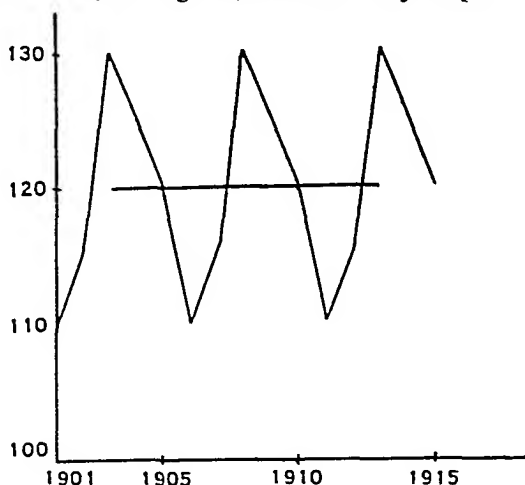


Fig. 55.

Next we add the trend (col. 4 of Table 2) illustrated by

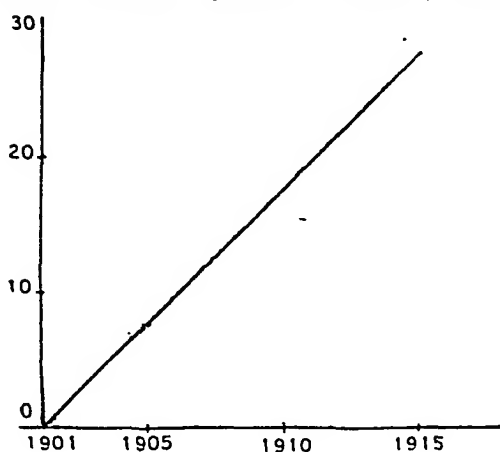


Fig. 56

Fig. 65 to prices in col. 2 in order to get cyclical data with a

trend (see col. 5 of Table 2). Prices vary in a cycle of five years but each successive cycle is higher than the preceding one.

We take 5 yearly moving averages of prices in col. 5. The period of the moving averages is exactly the same as that of the cycle. Again we obtain a straight line, but this time the straight line rises from left to right (Fig. 57) with exactly the same slope as that of the straight line shown in Fig. 56.

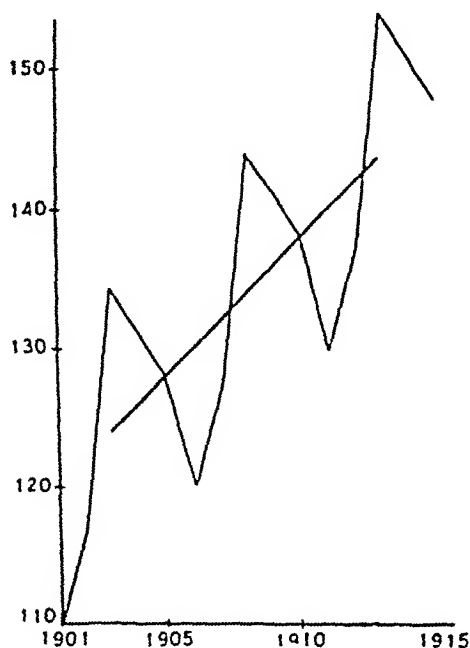


Fig. 57

We reach the following conclusions:

(1) When prices vary in a cycle and each cycle exactly repeats itself, a moving average with a period equal to that of the cycle will give a straight line without a slope. Cyclical fluctuations are thus entirely eliminated.

(2) When prices, varying in a cycle, are rising along a line with a uniform slope, a moving average with a period equal to that of the cycle will eliminate the cycle, and reveal the rising straight line trend.

In order to separate the trend from figures in col. 5 we find their deviation from the moving average. The deviations are shown in col. 7 of the table, and graphically

in Fig. 58. The rise and fall of prices is exactly the same as in Fig. 55.

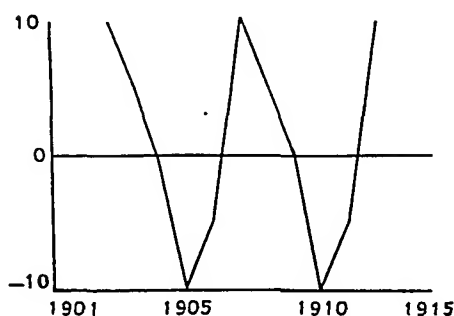


Fig. 58

Having learnt the meaning of the 'trend' and 'cyclical fluctuations,' we return to table 1 of this chapter.

First we take ten-yearly moving averages of the index numbers given in col. 2. The total for 1861-70 is 1066, and the average 106.6 or 107. Where shall we set down the total and the average? They should occupy the centre between 1861 and 1870. The period is even and we cannot set them down either against 1865 or 1866; we therefore place them in the middle of the two years. The total for 1862-1871 is 1070 and the average 107. We set both figures down between 1866 and 1877 and so on.

To 'centre' our ten-yearly moving average we take two-yearly moving averages of the figures in col. 3.

$$\frac{107+107}{2}=107; \frac{107+110}{2}=109; \frac{110+112}{2}=111$$

an so on.

6. MEANING OF A SMOOTHED CURVE

The ten-yearly moving average (centred) shows the trend of wheat prices between 1861 and 1937. We obtain a smoother curve than the curve of annual fluctuations (see Fig. 54 on p. 340).

A smoothed curve may be hand-drawn. But one may begin and end a free-hand curve where one pleases. A statistically smoothed curve is to be preferred to a hand-drawn curve.

A smoothed curve is useful only for showing the trend. It is of no use for determining when prices begin to rise or to fall. For that we must consult the original data. We are not entitled to say that the retail price of wheat began to rise in 1887 because our smoothed curve begins to rise in that year. The average for that year is based on the prices of ten years, of which the year in question is only one.

The ten-yearly moving average (centred) falls continuously after 1923. The annual average rose sharply from 246 in 1924 to 294 in 1925.

Smoothing removes short-time fluctuations. "To study short-time changes therefore," as King says, "the original histogram [or data] and not the trend must be studied."¹

Another leading writer on statistics warns us against making numerical calculations from smoothed data "as a spurious consistency in the findings may be introduced and significance of the original data may be hidden."²

For example, the shape of the smoothed curve in Fig. 54 would lead one to think that the price of wheat was fairly steady between 1874 and 1880, whereas according to the original data it was fluctuating violently.

Having discovered the trend of wheat prices between 1861 and 1937, we may now eliminate it. This is done by finding the deviation of wheat prices from the moving average (see col. 6 of Table 1 of this chapter). When the deviations are plotted on a graph we get the annual fluctuations in price without the trend (see Fig. 59 on p. 349).

7. OTHER INDEX NUMBERS

So far we have dealt with index numbers of prices. But the method of index numbers is very largely employed also for measuring other changes. Index numbers may be constructed to determine the percentage increase or decrease in the production of any commodity or production in general, variations in the value or quantity of exports and imports,

¹*Elements of Statistics*, p. 171.

²*Statistical Method*, by T. L. Kelly, p. 29.

the rise or fall in industrial profits, etc. A few examples are given below.

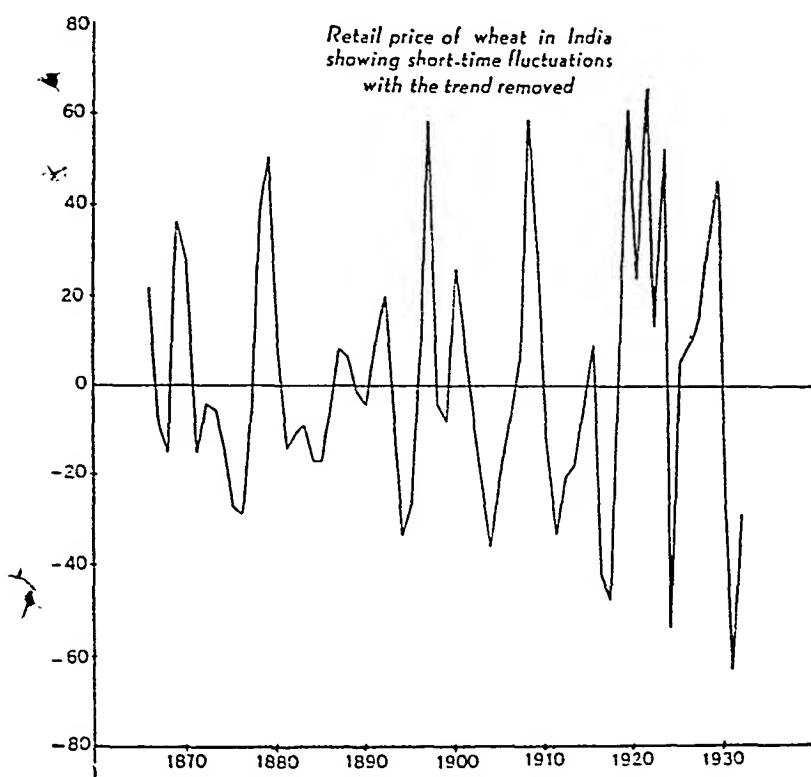


Fig. 59

Capital, a leading financial weekly issued from Calcutta, has constructed a general index of industrial activity in India, which is published monthly. The year 1935 is taken as the 'base' year. The weighted geometric mean has been taken to form the general index and seasonal fluctuations have been eliminated by means of a twelve months' moving average. The general index is based on figures of production (cotton and jute manufactures, steel ingots, pig iron, cement, paper, coal), rail and river-borne trade, cheque clearances, foreign and coastal trade, exports and imports, and foreign and coastal shipping (tonnage entered and

cleared). The annual index numbers given below are averages of monthly figures:—

Table 3
Capital's General Index of Industrial Activity.

Year	Index	Year	Index
1932-33 ...	81'4	1936-37 ...	105'0
1933-34 ...	87'7	1937-38 ...	111'5
1934-35 ...	87'3	1938-39 ...	111'1
1935-36 ...	100'7	1939-40 ...	114'0

The following is an index of company floatations in India, published by the Calcutta Stock Exchange, taken from their *Year-Book* for 1941.

Table 4

Year	No. of companies Regd.	Index No.	Aggregate authorised capital. Lakh Rs.	Index No.
1913-14	349	100	66,69	100
1931-32	749	215	29,61	44
1932-33	1,232	353	30,27	45
1933-34	866	248	50,85	76
1934-35	935	268	36,47	55
1935-36	993	285	49,19	74
1936-37	1,175	337	1,09,05	164
1937-38	986	283	53,12	80
1938-39	996	286	45,27	68
1939-40	1,005	288	35,78	53

'Authorised' capital of a company is its total nominal capital. 'Authorised' capital is to be distinguished from 'subscribed' capital which is generally less, and 'paid-up' capital (50 per cent. or more or less of the capital subscribed may be paid-up).

It is evident that the year 1936-37 was a boom year. As compared with the pre-war year 1913-14 (=100), the number of companies registered in 1936-37 more than trebled, and the aggregate authorised capital increased by 64 per cent.

The following table shows the quantity of cotton piece-goods produced in Indian mills, and index numbers of production.

Table 5
Production of Cotton Piece-Goods

Periods	Millions of Yards	Index Nos.	Chain Index (base preceding year)
Pre-war Average (1909-10 to 1913-14)	1,105	100	.....
1932-33	3,170	287	.....
1933-34	2,945	267	93
1934-35	3,397	307	115
1935-36	3,571	323	105
1936-37	3,572	323	100
1937-38	4,084	370	114
1938-39	4,269	386	105
1939-40	4,013	363	94

First we take pre-war production of 1105 million yards as the standard of comparison. As compared with the pre-war average=100, the output of Indian cotton mills rose to 363 in 1939-40.

Instead of a fixed base we may employ a moving base. In the last column of the table the output of a given year

has been compared with the output in the preceding year. The index figure for 1933-34 is 93 (base 1932-33); that for 1939-40 is 94 (base 1938-39).

9. INTERNATIONAL INDEX NUMBERS

Attention may also be drawn to international index numbers published by the League of Nations. The following examples are taken from the *Statistical Year Book of the League of Nations, 1938-39*.

Table 6

Index Numbers

Year	Number in employment in Japan.	Total hours worked in Germany.	Weekly earnings, Germany.	Ocean freights, Denmark, 26 world routes.	Ocean freights, United Kingdom to India.	Prices of 335-347 shares, United States.
1929	100	100	100	100	100	100
1930	86.1	83.5	92	80.4	87.7	74.2
1931	84.2	66.4	81	77.7	84.0	45.9
1932	87.7	53.8	67	79.5	81.6	24.4
1933	95.9	61.5	68	87.5	80.1	35.0
1934	109.2	80.6	73	87.5	82.5	42.9
1935	115.6	88.4	75	89.3	83.6	48.0
1936	126.3	99.4	78	99.1	91.8	67.3
1937	140.0	110.8	81	140.2	140.7	69.0
1938	154.1	118.8	.....	113.4	102.5	52.6

The number employed in Japan, after falling to their lowest level in 1931, rose rapidly, and increased by 54 per cent. in 1938.

The total number of hours worked in Germany was reduced to about half in 1932 as compared with 1929, and

thereafter rose continuously. The weekly earnings of labourers in Germany in 1937 were still below those in 1929.

Ocean freights rose sharply in 1937. This was due to political causes which led to a rise in insurance rates.

✧ As compared with 1929=100, the prices of shares in the United States fell to 24·4 in 1932. The index rose after that but fell again in 1938.

Table 7

Index Numbers of Industrial Production

Year	World Index of Primary Products.	Manufacturing industries only. World without the U.S.S.R.	Germany.	United States.	Japan	United Kingdom	Italy	U.S.S.R.
1925	95	84·2	.....	.....	.....	.....	.....	.....
✧ 1927	100	90·8	.....	.....	.....	.....	.....	.....
1929	105	100	100	100	100	100	100	100
1931	101	74·4	67·6	68·1	91·6	83·8	77·6	161·3
1932	97	63·5	53·3	53·8	97·8	83·5	66·9	183·4
1933	100	71·8	60·7	63·9	113·2	88·2	73·7	198·4
1934	102	77·8	79·8	66·4	128·7	98·8	80·0	238·3
1935	104	86·8	94·0	75·6	141·8	105·6	93·8	293·4
1936	109	97·3	106·3	88·1	151·1	115·8	87·5	382·3
1937	116	104·2	117·2	92·2	170·8	123·6	99·6	424·0
✧ 1938	113	92·9	126·2	72·3	173·0	115·5	98·5	470·0

World production of primary products increased till 1929, after which it received a set-back. After 1932 it rose uninterruptedly.

✧ Industrial production in the U. S. S. R. calls for special notice. The figures show continued expansion. The world

crisis, which is reflected in the index numbers of industrial production of other countries, did not affect the U.S.S.R.

The examples given above show the varied uses to which index numbers are put.

CHAPTER XIX

FOREIGN EXCHANGES

Here we interrupt our study of monetary problems in order to understand the theory of the foreign exchanges. The monetary problems which remain to be discussed are intimately connected with foreign exchange.

It has been already explained that a rate of foreign exchange expresses the value of the money of one country in terms of the money of another country.

On April 3, 1941, the rupee was quoted in Bombay at $17\frac{3}{4}d.$ stg. and the dollar in London at $4'03\frac{1}{4}$ to the £stg. £ stg., we remember, is British paper money which is not at present convertible into gold. On April 3, 1941, then, $17\frac{3}{4}d.$ stg. was given in exchange for a rupee, and $4'03\frac{1}{4}$ dollars for the £. stg.

Both quotations are T. T. (telegraphic transfer), or by paying a rupee in Bombay one could purchase the right to receive $17\frac{3}{4}d.$ in London in a few hours; similarly one could buy the right to receive $4'03\frac{1}{4}$ dollars in New York almost immediately by paying one pound stg. in London.

1. BILLS OF EXCHANGE

Why is foreign currency bought? The answer is that if you have imported goods from England you must pay for them. Similarly British importers of Indian goods must pay for our goods.

Suppose an Indian merchant, whom we may call II (Indian Importer) has bought British cloth worth £1,000 from an English manufacturer named EE, and an English merchant called EI has imported Indian cotton also worth £1,000 from an Indian exporter named IE. II has to pay for British cloth and EI for Indian cotton.

Gold is the medium of payments in foreign trade. Will II buy gold worth £1,000, pack it, insure it and send it to EE, the English exporter of cloth? Will the English importer of Indian cotton EI, similarly send £1,000 in gold to his creditor in India IE?

It is not necessary. There is a debtor and a creditor in each country. If they meet, no bullion need be sent by either country.

Payments in foreign trade are usually made by means of bills of exchange. A foreign bill of exchange is a foreign *hundi*—nothing more. A *hundi* is an internal bill of exchange.

A bill is drawn by a creditor on his debtor and it is accepted by the debtor. The debtor, by accepting the bill, acknowledges his obligation to pay it. If it is a sight bill, it is payable at sight. A cheque may be regarded as a sight bill—it is instantly paid by the bank on which it is drawn. A *darshani hundi* is paid by the person on whom it is drawn as soon as he has *darshan* of it. A *miyadi hundi* is paid on maturity, or after a certain period specified in the *hundi*.

For the present we may assume that bills used in foreign trade are sight bills.

IE, having sold cotton to EI worth £1,000, draws a bill on EI, which EI, or somebody on his behalf, accepts. Now II has to pay £1,000 to EE, the English exporter of cloth. II meets IE, buys the bill that IE has drawn on EI for £1,000, and sends it to his creditor in England, EE, with instructions to receive payment from EI. EE presents the bill to EI, the English importer of cotton, who pays the value of the bill. One bill of exchange, drawn by the Indian creditor and accepted by the English debtor, has paid two debts, and saved the cost of sending gold.

The rate of exchange quoted in the daily papers refers to the prices at which foreign bills of exchange are sold.

2. THE RUPEE EXCHANGE

Prices of foreign bills rise and fall, but their fluctuations are usually confined within narrow limits.

The table below gives the average rate of exchange from Calcutta on London for Telegraphic Transfers (selling rate) for each month since 1929-30

	1929-30		1930-31		1931-32		1932-33		1933-34		1934-35		1935-36		1936-37		1937-38		1938-39		1939-40	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
April	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{1}{2}$
May	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$
June	1	5 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	6 $\frac{1}{2}$	1	6	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$
July	1	5 $\frac{1}{4}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{4}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$
August	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{4}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$
September	1	5 $\frac{1}{4}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	5 $\frac{3}{4}$
October	1	5 $\frac{3}{4}$	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	5 $\frac{3}{4}$
November	1	5 $\frac{1}{4}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$
December	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$
January	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$
February	1	5 $\frac{1}{4}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{3}{4}$	1	5 $\frac{1}{2}$
March	1	5 $\frac{1}{4}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$
Average rate during the year.	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	6 $\frac{1}{2}$	1	5 $\frac{1}{2}$	1	5 $\frac{1}{2}$

The table shows the 'selling rate.' There is always a difference between the buying and the selling rate. The rate at which you would be prepared to buy English money would be cheaper than the rate at which you would sell it.

Cheaper English money means more pence per rupee and dearer English money fewer pence per rupee. English money is quoted in India like the retail price of wheat. When we get more seers per rupee, wheat is cheaper. Our exchange is quoted in terms of English money, that is so many pence per unit of our currency.

If you were buying rupees in London, you would consider them dear if you had to pay more English money for a given number of rupees, and cheap if the same number of rupees could be obtained by parting with less English money.

All rates quoted in the table are in pence per rupee, but the character of English money changed on 21st September 1931. On that date England abandoned the gold standard, so that British paper money ceased to be convertible into gold as a matter of right. The pence obtainable for a rupee after 21st September 1931 were paper pence, or sterling, not gold.

Let us, for the moment, ignore the inconvertibility of English paper money into gold. The exchange value of the rupee was fixed at 18*d.* gold in 1927, or one rupee became equal to 8·475 grains of fine gold ($\frac{18 \times 113}{240}$; a sovereign contains 113 grains of fine gold, and is equal to 240*d.*). The rate of 18*d.* = 1 Re. (= 8·475 grains of gold) is known as our par of exchange with England. It is, however, an artificial par. Government may have fixed the rate of exchange at 16*d.* gold or 2*s.* gold. In fact 16*d.* was the pre-war rate of exchange (Re. = 7·53344 grains of fine gold), and an attempt was made to fix exchange at 2*s.* gold (= 11·3 grains of fine gold) in 1920.

If the rupee were a tiny gold coin containing 8·475 grains of fine gold, then 18*d.* per rupee would be the Mint Par of the rupee.

Par means 'state of equality.' Take two countries using the same metal, gold; as their standard of value, for example,

England and United States. If the American gold dollar contains 23'22 grains of fine gold, and a sovereign, 113'0012 grains of fine gold, then one sovereign is equal to 4'866 dollars. This relation is a true Mint Par; it is the rate at which a sovereign is equal to a given number of dollars.

It should be noted that the Mint Par expresses a legal ratio; it is determined by the legal definition of a dollar and the legal definition of a sovereign, and it remains unchanged so long as the two legal definitions are not changed. It is quite possible that a sovereign, which has lost some gold on account of wear, may not actually contain as much gold as 4'866 dollars. The Mint Par is not concerned with actual or *de facto* sovereigns and dollars, but with legal or *de jure* coins.

As we know already, the new American dollar contains 41 per cent. less fine gold than the old dollar, so that a sovereign is now equal to 8'24 dollars. If England reduced the fineness of the sovereign in the same proportion, the old Mint Par between England and the United States would be restored.

3. NO FIXED MINT PAR BETWEEN A GOLD STANDARD AND A SILVER STANDARD COUNTRY

There is a fixed Mint Par between two countries when both use gold or silver as the standard of value. But suppose one country is on the gold standard and the other on the silver standard. Can they have a fixed Mint Par?

No, the value of the currency of one country in terms of the currency of the other country will change with the relation of silver to gold. If silver fell in terms of gold, silver money will become cheaper; if silver rose relatively to gold, gold will become relatively cheaper.

The rupee had no fixed exchange value in terms of gold before 1893. The rupee was a full value coin, not a token coin, as at present with an artificially fixed gold value higher than its intrinsic value. The result was that when the price of silver fell heavily after 1873 the gold value of the rupee fell with it. Our rate of exchange then fluctuated

with the bullion value of silver.

Again, after August 1917, the rise in the price of silver made it profitable to melt down rupees. The price of silver continued to rise till February 1920. The rise in the price of silver restored the connection between the price of silver and rupee exchange which had been broken in 1893 by the closing of the mints to the free coinage of silver.

4. RISE AND FALL IN THE PRICE OF FOREIGN BILLS

Let us now go back to the par fixed in 1927, 1 rupee = 18d. = 8.475 grains of fine gold.

Suppose you have to pay £100 (gold) in England. You want to buy a bill on London of the value of £100. The par value of £100 is Rs. 1,333. If you are able to buy the bill for Rs. 1,333, well and good. But you may not be able to do so.

In the example given on page 356 we assumed that there was one seller and one buyer of a foreign bill in India, or supply was equal to demand. If I wanted a bill for £1,000 and I had a bill of the same value to sell.

But it is possible for imports, at any particular time, to be of greater value than exports (goods as well as services). In that case the demand for bills will be greater than the supply, or there will be a scarcity of bills drawn on London. We have seen that the creditor draws a bill which the debtor accepts. Exporters draw bills and importers accept them. It follows that when imports into a country are of greater value than exports, foreign bills will be relatively scarce.

When the supply of bills on London is not sufficient to meet the demand, their price will rise.

A bill on London gives the right to receive English money in London. A rise in the price of a London bill, therefore, means a rise in the price of English money, or a rupee will buy, not 18d., but less.

How much less? What is the most unfavourable rate at which you would be willing to buy a bill of the value of £100?

5. SPECIE POINTS ✓

Suppose I possess that bill. I offer it to you at $17d.$ per rupee. Will you buy it?

You may, if there is no other course open to you. But you can send gold instead of buying my bill.

The cost of transportation of gold per rupee is $\frac{1}{4}d.$ It follows that when buying a bill you will not be ready (except in very special circumstances) to sacrifice more than $\frac{1}{4}d.$ per rupee. The most unfavourable rate at which you may be induced to buy a bill on London is $18d.$ (par rate) minus $\frac{1}{4}d.$, or $17\frac{3}{4}d.$ per rupee. If I offered the bill to you at $17\frac{3}{4}d.$ you will decline my offer with thanks, for if you bought gold and sent it, you will save $\frac{1}{4}d.$ per rupee.

In fact some importers of British goods may send gold when the rate touches $17\frac{3}{4}d.$ —it is a matter of indifference whether anyone makes a payment to England by sending gold, or by buying a bill at that rate; the cost in both cases is the same. $17\frac{3}{4}d.$ per rupee is, therefore, known as the gold export point for India, and also as the lower specie point.

Next suppose that the supply of bills much exceeds the demand. Bills on London will become cheaper, or, in other words, more than $18d.$ will be offered per rupee. But how much more?

Will I offer my bill to you, for example, at $19d.$ per rupee? I may, under very special circumstances. Ordinarily two courses are open to me. If I am unable to find a purchaser at a satisfactory price, I may have gold sent to me from London at my own cost.

The cost of transportation being $\frac{1}{4}d.$ per rupee, I will not ordinarily sell my bill at a rate more unfavourable from my point of view than $18\frac{1}{4}d.$ per rupee. The higher the rate at which I sell my bill, the less is the number of rupees I receive for it. It should not be forgotten that a bill on London is a right to receive English money. In selling it I am selling English money. The higher the rate of exchange, the cheaper is English money.

Ordinarily I will not sell my bill cheaper than $18\frac{1}{4}d.$ per rupee. If you offered to buy it at $18\frac{3}{4}d.$ per rupee, I would decline your offer with thanks, and import gold, thereby

saving $\frac{1}{2}d.$ per rupee.

When the rate of exchange is $18\frac{1}{2}d.$ per rupee, some exporters of Indian goods may actually import gold, for which reason $18\frac{1}{2}d.$ per rupee is known as the gold import or the upper specie point.

To find the upper specie point we add the normal cost of transportation of gold per unit of currency (per rupee) to the par rate; to find the lower specie point, we deduct the cost of transportation from the par.

6. ARBITRAGE

When the rate of exchange is $18d.$ in India, it must also be $18d.$ in England.

Suppose one fine morning you discover that while the rate of exchange is quoted at $18d.$ per rupee in London, it is actually $19d.$ in India. Here is your chance of making a little money. Lose no time in buying 1 million pence. The cost to you will be one million rupees. Having got 19 million pence in London, sell them immediately at $18d.$ per rupee, the rate quoted in London. Your profit on the transaction will be Rs. 55,555.

The buying and selling of currencies with a view to taking advantage of differences in the price of the same currency at different centres is known as *arbitrage*. A difference in the rates of rupee exchange in India and England such as we assumed is impossible. As the result of arbitrage operations such differences are reduced to a minimum.

7. GOLD IMPORT AND EXPORT POINTS FOR INDIA ARE GOLD EXPORT AND IMPORT POINTS FOR ENGLAND

The par value of the rupee being $18d.$ and $\frac{1}{2}d.$ per rupee being the cost of transportation of gold per rupee, an English importer of Indian goods will not ordinarily buy a bill on India at a rate more unfavourable than $18\frac{1}{2}d.$ At this rate, he may either buy a bill or send gold. $18\frac{1}{2}d.$ per rupee, which is gold import point for India, is gold export

point for England.

Similarly a British exporter will not ordinarily sell his right to receive rupees in India, or an Indian bill, at a rate more unfavourable than $17\frac{3}{4}d.$ per rupee. At this rate he may either sell the bill or import gold from India at his own cost. $17\frac{3}{4}d.$, which is gold export point for India, is gold import point for England.

8. WHEN EXCHANGE PASSES THE SPECIE POINTS

Let the reader scrutinise once more the rates of rupee exchange given in the table on page 357. With very few exceptions, the rates are within the 'gold points.' We cannot, however, properly speak of 'gold points' after the abandonment of the gold standard both by England and India at the end of September 1931. But the sterling rate is being maintained by the Reserve Bank of India within the limits of the gold points of the rupee. In June 1939 the average rate was $17\frac{1}{2}d.$, which is below the lower specie ($17\frac{3}{4}d.$).

We have said above that you will rather send gold than meet your obligations in England by means of a foreign bill bought at a rate more unfavourable than $17\frac{3}{4}d.$ But that assumes that gold is available for export. Suppose there is difficulty in obtaining gold. Actually, in the exchange crisis in India in 1907-08, when demand for means of foreign payments was greater than the supply, and gold for export was not obtainable, exchange fell below the lower specie point. It is said that when the crisis came someone asked for £10,000 of gold from the Accountant-General of Bombay, and the Accountant-General said: 'Why do you ask for it?' Sir Edward Baker, Finance Member of the Government of India, was wired to, and he said, 'Gold is not for export, it is only for internal purposes.' On November 23, 1907, exchange fell to $15\frac{3}{4}d.$ The par in those days was $16d.$ and the cost of transportation of gold per rupee $\frac{1}{2}d.$ $15\frac{3}{4}d.$ was below the lower specie point of the rupee, $15\frac{1}{2}d.$

A fall of exchange below the lower specie point occurs

when (a) imports are greater than exports, or the demand for foreign bills is greater than the supply, and (b) gold is difficult to obtain for export.

Next suppose that England leaves the gold standard when the United States does not. The Mint Par between the old American dollar and the sovereign, as we know, was £1 (gold) = 4·866 dollars. The cost of transportation of gold between England and the United States is 3 cts per £, so that the upper and lower specie points of the £ were 4·89 and 4·83 dollars. Between 1925 and 21st September 1931, the dollar-sterling rate fluctuated between these points, but as soon as England left the gold standard, the £ stg. (now paper) fell in terms of the American dollar. In June 1931, the £ stg. was 100 per cent gold; by December 1931 the £ stg. had lost 30·7 per cent. of its gold value.

(When does our exchange tend to rise above the upper specie point? Again two conditions must be satisfied: (a) supply of bills on London must be greater than the demand for them, or exports must be greater in value than imports, and (b) and there must be difficulty in importing gold.

If I am anxious to turn my foreign bill into rupees, and my need for cash is urgent; if I cannot wait until gold can be sent to me from the foreign centre; and if, finally, many other Indian exporters are in the same position in which I find myself, I will sell my bill for what I can get for it. I may sell it at even 19 or 20d. per rupee, when, in other circumstances, I would not sell it at a rate more unfavourable than 18½d. per rupee. Such conditions existed in India during the Great War. In the last three years of the war India had record balances of trade in her favour, and these balances, on account of the war, could not be adjusted through the import of gold. The total import of treasure into India between 1914-15 and 1918-19 amounted to about £36 millions, as compared with imports of treasure amounting to £120 millions between 1909-10 and 1913-14. Other causes were also at work (e.g., rise in the price of silver), and our exchange rose. The rise was controlled by Government, but when Government restrictions intended to prevent exchange from rising unduly were withdrawn at the end of

the war, importers and exporters were free to transact business with one another directly, and exchange rose sharply.

Ordinarily exchange rises and falls within the specie points. If it passes the specie points, something extraordinary has happened. The rise and fall of exchange within the specie points is due to changes in the supply of and the demand for bills. These changes may have their origin in exports and imports of goods, or in the movements of capital, or in the activities of speculators.

Suppose it has become more profitable to lend money in the London money-market owing to a rise in the rate of interest there. Capital will flow from other countries to England. The flow of capital to England will cause a rise in the price of bills on London in the other countries.

Suppose I have reasons to think that very shortly the rupee rate will fall, let us say, from 18*d.* to 17½*d.* I will convert my rupees into sterling immediately at 18*d.*, and later make a profit by selling sterling at the rate of 17½*d.* to the rupee.

✓ In India Government remittances are a very important factor in influencing the course of exchange. Heavy demand on the part of Government for sterling tends to raise the price of sterling, or lower the exchange value of the rupee; if Government abstained from buying sterling when private demand for sterling was strong, sterling would not rise much. At a time of exchange weakness, Government help the exchange rate to rise by holding up their demand for foreign remittance.

The reader is again asked to carefully note the inverse relation between the rate of exchange and the price of sterling. The rupee exchange expresses the price of sterling per rupee. When exchange rises, *e.g.*, from 18*d.* to 18½*d.* the value of sterling falls, or foreign bills become cheaper. When the rate of exchange falls, *e.g.*, from 18*d.* to 17½*d.* the value of sterling rises, or foreign bills become dearer. ✓

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quantity of wheat or cotton will be purchased at a lower price in sterling—there is a saving of $\frac{7}{2}d.$ per rupee.

10. PREMIUM AND DISCOUNT ON FOREIGN BILLS

A premium on foreign bills in India will thus subsidise exports from India and penalise imports into India.

When bills on London are at a premium in our country, Indian bills, as we have seen, will be at a discount in London, or the rupee will become cheaper. British imports from India will be subsidised by the discount on Indian bills, and British exports to India penalised.

Next suppose that British bills in India are at a discount, or exchange is quoted at $18\frac{7}{2}d.$, or $\frac{1}{2}d.$ below the upper specie point. Imports into India will now be subsidised and exports from India penalised, and since the rate quoted in London will be the same, British imports from India will be penalised on account of the rise in the price of the rupee, and British exports to India subsidised.

We have seen that when exchange falls below $18d.$, it is said to become unfavourable as it may lead to gold exports. But the fall in exchange by itself will tend to check imports and to encourage exports. An unfavourable rate of exchange thus tends to correct itself.

Similarly a favourable rate of exchange (above $18d.$) sets forces in motion which tend to make it less favourable. It encourages imports and discourages exports.

When the balance of trade is favourable or unfavourable, the rate of exchange is also favourable or unfavourable respectively. It should be clear to the reader that a purely conventional meaning attaches to the terms 'favourable' or 'unfavourable' rate of exchange. There is one buyer of exchange for one seller. The rate which is favourable from the buyer's point of view is unfavourable from the seller's point of view. Again, a rate below $18d.$ would be considered favourable by Indian manufacturers and peasants. For manufacturers it reduces the intensity of foreign competition by raising the price of British goods; for peasants it means greater value in rupees for the same quantity of

goods sold abroad, the foreign price remaining unchanged. Still a rate below 18*d.* will be called 'unfavourable' because it may lead to gold exports.

How the peasant is benefited by a fall in the rate of exchange may be explained by a numerical illustration.

When the rate of exchange is 18*d.* per rupee, and a given quantity of Indian cotton is sold for £1,000 in London, the peasant receives Rs. 13,333 as the price. Assume that the same quantity of cotton is sold in London at the same price as before, but that the rate of exchange is 17 $\frac{2}{3}$ *d.* £1,000 at 17 $\frac{2}{3}$ *d.* per rupee is equal to Rs. 13,497, which means a gain of Rs. 164 for the peasant.

The Indian manufacturer of cotton goods will be encouraged because British cotton goods of the value of £1,000 will cost Rs. 13,497 instead of Rs. 13,333 because of the fall in exchange from 18*d.* to 17 $\frac{2}{3}$ *d.*

11. MEASURES TAKEN TO STOP A FOREIGN DRAIN OF GOLD

A drain of gold from a country is an unhealthy sign and steps are at once taken to check it. Why?

Gold is not like ordinary commodities, e.g., cotton and wheat. We raise crops of wheat and cotton, but a small quantity of gold is produced in India, and even if we possessed the most valuable gold mines, exports of gold on a large scale year after year to meet foreign obligations would ultimately exhaust them.

A country without gold mines possesses a given amount of gold. Its stock of gold is increased by imports, and reduced by exports.

Gold in a country is of two kinds, monetary and non-monetary. We own a large amount of non-monetary gold in the form of hoards and ornaments. It is the quantity of non-monetary gold in India that has suffered reduction on account of gold exports since 1931.

In European countries, such as England, monetary gold is of far greater importance than non-monetary gold. Monetary gold is gold used as the basis of credit. The Bank of England keeps the monetary gold of the whole of the

United Kingdom. It is kept in a very safe place and the greatest possible care is taken of it, for if any one just walked away with the Bank of England's reserve, the whole currency and banking system of England would be thrown into confusion and British economic life disorganised.

Suppose the United States holds a large amount of maturing bills drawn on England. These bills can be turned into cash by getting them discounted in England, and the cash in the form of gold taken out of the country. Whether it is profitable or not to get the bills discounted depends on the London rate of discount. Bills used in foreign trade are generally three months' bills. If the rate of discount is 4 per cent. per annum, the present value of a three months' bill of the face value of £100 is £99. If the rate of discount were 8 per cent., £98 would be given for the bill, other things being equal.

12. IMMEDIATE AND ULTIMATE EFFECTS OF RAISING THE BANK RATE

Suppose the Bank of England raises its rate of discount from 4 per cent. to 8 per cent. and its lead is followed by the joint-stock banks. Those who hold maturing bills on England will be induced not to turn the bills into cash on account of the high rate of discount.

A rise in the rate of discount would make it more profitable to lend money in London than in the other centres where the rate of discount is lower. A rise in the rate of discount in London would, thus, not only check the foreign drain but attract gold to London.

This is the immediate effect of a rise in the Bank rate (the rate of discount of the Bank of England). The ultimate effect is not less important.

A high rate of discount raises the cost of borrowing and would therefore restrict the creation of new credit. If trade and industry are expanding normally, while the supply of credit money is thus limited, a scarcity of media of payments will begin to be felt and commodity prices will tend to fall. A fall of prices makes a country a good market to buy in and a bad market to sell in. If the Bank rate in

England is high, and British prices fall, England's exports will increase and her imports decrease, or the balance of trade will turn in England's favour. When exports are greater in value than imports, the supply of foreign bills will be greater than the demand, and the price of foreign bills will fall, or, in other words, foreign currencies will become cheaper in terms of English money. With a favourable balance of trade the rate of exchange will also become favourable.

We have seen that gold tends to flow out when the balance of trade and the rate of exchange are unfavourable. The rise in the Bank rate sets forces in motion which, by lowering commodity prices, encourage exports, discourage imports and turn the balance of trade in the country's favour. The causes of the drain of gold are thus removed.

13. THE LONG RATE

We have said above that the price of a three months' bill of the face value of £100 will be 99 if the rate of discount is 4% per annum. Certain other factors have also to be allowed for.

If a bill has been drawn in India on London, what you will pay for it in India depends, in the first place, on the rate of discount, not in India but in London. Why?

Suppose you are buying the bill to pay your book-seller in London. If you send him a bill which will mature in three months, he will not credit you with the face value of the bill, but with the amount that a bank will pay for it. The price at which a bank will buy the bill depends on the bank's rate of discount.

Secondly, the stamp duty on the bill has to be paid.

Thirdly, the value of a bill also depends on the credit of the person on whom it is drawn, and allowance has to be made for risk, which increases with time. In the case of sight bills risk is negligible. The longer the period of maturity of a bill, the greater the risk.

A bank which buys a three months' bill has to wait for three months for payment, and anything may happen to the drawee in these three months—he may fail and disappear

without leaving a trace. The bank will therefore allow for the element of risk in the price that it will offer for the bill.

It follows that the T.T. rate of rupee exchange (telegraphic transfer) will be lower than the rate for three months' bills, and the rate for three months' bills will be lower than that for six months' bills.

On April 5, 1941, the T.T. rate was quoted in Calcutta at 1s. $5\frac{1}{8}d.$, and sixty days' sight rate at 1s. $6\frac{1}{4}d.$ The latter means the rate at which banks were selling two months' bills on London. The rate for telegraphic transfers was lower than the rate for two months' bills. A lower rupee rate, as the reader has already learnt, means fewer pence per rupee, or a higher cost of sterling. Sterling, in other words, was cheaper to buy when delivery was to be made in two months (1s. $6\frac{1}{4}d.$ per rupee) than when it was to be delivered immediately (1s. $5\frac{1}{8}d.$ per rupee.)

14. DEPRECIATION AND DEVALUATION

The present United States' dollar is not the same as the old dollar; nor is the present British pound the same as the old pound. The pound has *depreciated* in terms of gold; the American dollar has been *devalued*.

A currency is devalued when its relation to gold is changed by law. By law the fine gold contents of the old American dollar were reduced by 41 per cent. When this was done, the American dollar was devalued.

There has been no devaluation yet of the sovereign and that is why the Mint Par between the sovereign and the American dollar at present is £1=8'24\$. Since the £ stg. buys only 4'03 American dollars, it has depreciated in terms of gold.

The £ (gold) is certain to be devalued when normal conditions return.

Similarly, we can at present talk only of the depreciation of the rupee in terms of gold, not its devaluation. So long as the law is not changed according to which the rupee is equal to 8'475 grains of gold (18d. gold), there is no devaluation of the rupee. The rupee will be devalued when its

gold value is fixed at a lower figure than 8'475 grains.

15. EFFECTS OF DEPRECIATION ON IMPORTS AND EXPORTS

A distinction is sometimes made between a rising exchange and a high rate of exchange, between a falling exchange and a low rate of exchange. We shall first consider the effects of an appreciating and a depreciating currency on exports and imports.

A depreciating currency, other things being equal, tends to encourage exports and discourage imports.

Suppose our rate of exchange falls from 18*d.* to 16*d.* At 18*d.* to the rupee the £ = 13½ rupees; at 16*d.*, 15 rupees will buy one pound.

At 18*d.* per rupee Indian cotton worth £1,000 sold in Liverpool is equal to Rs. 13,333. If the rate of exchange fell to 16*d.* the same amount of cotton sold at the same foreign price will be worth Rs. 15,000, which will mean a gain to the exporter of Rs. 1,667. Exports of cotton will thus tend to increase.

Imports will receive a check because British goods of the value of £1,000 will cost Rs. 1,667 more at the lower rate of exchange. To that extent it will become easier for Indian manufacturers to compete with British goods.

A depreciating currency encourages exports and discourages imports, provided other things remain equal. But other things may not remain equal.

Between 1873 and 1893 the rupee was depreciating, or its gold value was falling from year to year. Yet during this period imports into India, so far from being checked, increased more rapidly than exports from India. This was because gold prices (or prices of commodities in terms of gold in gold-using countries) fell heavily between 1873 and 1896.

When exchange falls from 18*d.* to 16*d.*, the cost in rupees of a British-made fountain pen, valued at £1, rises from Rs. 13½ to Rs. 15. The demand for these fountain pens in India would tend to decrease. This is the effect of a fall in exchange by itself on imports.

But suppose the price of fountain pens in England fell from £1 to 16s. At 16d. to the rupee, 16s. is equal to Rs. 12. The fall in gold price may make imports cheaper than before, in spite of the rise in the price of sterling.

When currency depreciates, exports are subsidised because a greater sum in rupees is received for the same quantity of produce exported. While the income of the exporter increases, his costs of production do not rise at once. Depreciation of a currency is usually accompanied by a rise of prices, but the rise in wages and the rate of interest is slower—they lag behind prices. A manufacturer or a grower of raw produce thus gains both on sales at home and abroad.

But it is emphasized that the gain of the home producer or exporter is temporary. Eventually the rise in the cost of production at home will overtake the rise of prices, and the stimulus to exports will cease. At the same time the exceptional profit on goods sold at home at a price above cost of production will also disappear.

Dr. Marshall gave interesting evidence on the effects of a fall in exchange on the export trade before the Indian Currency Committee of 1898.¹

¹In the course of his evidence Dr. Marshall said: Q. 11, 792 "It is common ground that, if the price at which an exporter sells his goods in foreign markets be taken as fixed, then a fall in the value of his own currency, relatively to foreign currency, of one per cent. increases his gross currency receipts by one per cent., and is likely to increase his profits in a much larger proportion, or to turn a loss into a profit. It is common ground also that, if the currency in India is rising in value, while that in, say, China, is falling in value, then the employers in India having to pay relatively increased fixed charges, salaries, wages, etc., may be complaining of hard times, while the employers in China are making good profits. This will, perhaps, be expressed by saying that currency changes are giving an advantage, or a premium, or a bounty, to the Chinese employers as compared with the Indian. If these employers in India are producing for export to foreign countries, they may be described as exporters; and it may be said then that the Chinese exporters have a bounty in comparison with the Indian exporters. But this appears to me to be an incorrect way of expressing an undoubted fact: for, first, the gain of the Chinese employer is independent of the accident that his goods are exported; and secondly it is at the expense partly of the creditors who are financ-

Dr. Marshall insisted that the gain of the exporter was largely at the cost of the creditors who financed the industry, and its employees.

For a time, while costs of production have not adjusted themselves to the rate of exchange, or have not risen in proportion corresponding to the fall in the value of the currency, a depreciating currency acts as a bounty on exports.

Next consider a low, as distinguished from a falling rate of exchange. The transition period is over; after falling for some time exchange settles down at a lower level, which we suppose is 16*d.* There was a stimulus to export while exchange was falling. But when exchange is fixed permanently at a lower level, prices and costs will become adjusted to the new rate of exchange, and there will be no encouragement of exports or discouragement of imports on account of the change.

16. ADJUSTMENT OF COSTS AND PRICES TO RATE OF EXCHANGE

The adjustment of costs and prices to the rate of exchange may be explained by an example.

Suppose the price of a unit of wheat is Rs. 13½ in India, and the rate of exchange is 18*d.* to the rupee. Ignoring cost of transportation and export and import duties, the price of the same unit of wheat will be £1 in England. If it is more than £1, more wheat will be exported from India to

ing his export industry, but mainly of the employees in it. Now if one says that the export trade of a country is conterminous with the undertakers of business enterprise, who are generally employers, and that anything that benefits the employers is a bounty on the export industry, then the proposition may be conceded. But, as I hold that the creditors who finance an industry that produces for export have some share in the export trade, and that the employees who make the thing for export have a very large share—quite as large a share as the undertaker—holding that I do not admit the proposition. If the statement is that a depreciating currency gives a bounty to the employer who is producing for export, I admit it; only, I add, the bounty is just the same, and at the expense of just the same people, as that which he would get from a depreciating currency if he were producing for his home market, and not for export."

England, which would lower the British price. If it is less than £1, exports will cease, which by itself will tend to raise the price in England. Or India may import wheat. Finally, in a position of equilibrium, wheat must sell in India and England at the same price, which is £1 per unit in England, corresponding to Rs. 13½ per unit in India.

Next suppose that exchange falls from 18*d.* to 16*d.* per rupee. The foreign price remains unaltered—it is £1 as before. Until the Indian price has risen to Rs. 15, there will be a gain in exporting wheat to England. Eventually cost of production will rise in India, and the Indian price will rise with it. When the price in India rises to Rs. 15 per unit, equilibrium is again restored.

In arguing the case for the fixation of exchange at 18*d.* gold in 1927 Sir Basil Blackett, Finance Member of the Government of India, said:

"No one ratio for the rupee can possibly be permanently more advantageous for India than another. The question is not, and never can be whether one particular ratio, say 1*s.* 6*d.*, is permanently more advantageous for India than some other rate, say, 1*s.* 4*d.* or 2*s.*

"All arguments based on the belief that the fixation of one particular ratio is definitely and permanently advantageous or disadvantageous to this or that interest are entirely irrelevant."

In fairness to Sir Basil Blackett it must be remembered that he was speaking in 1927, or shortly after the return of England to the gold standard at her pre-war parity with the United States' dollar (4·866 dollars to £1). Sir Basil Blackett's meaning was that the absolute level of exchange, whether it was high or low, did not matter in the long run, for eventually costs and prices adjust themselves to the rate of exchange. Therefore no rate of exchange, whether high or low, is permanently advantageous or disadvantageous to a country.

17. WHY ENGLAND LEFT THE GOLD STANDARD

If we accepted Sir Basil Blackett's reasoning, we should find it difficult to understand why England left the gold

standard in 1931. We should also be unable to understand why every country of the world has abandoned its old gold parity. A few countries went off gold before England. Others devalued their currencies when England left gold, or simply allowed them to depreciate. In many cases action was taken immediately on England's going off gold ; in a few cases (France, Belgium, Holland, Switzerland) devaluation came several years later.

The gold standard ceased to function in England (as in the other countries involved in the War) during the Great War, and the £ stg. (paper) depreciated in terms of gold. As the gold standard was maintained by the United States, the depreciation of the £ stg. in those days may be measured by the rise in the price of dollars in terms of the £.

At the end of the War it was decided to restore the gold value of the £ stg. There was to be no devaluation. London was the financial centre of the world and, by devaluing the £, Britain would have suffered loss of prestige.

Measures were taken which gradually raised the gold value of the £ stg., as is shown by the statement given below :—

Dollars to the £ stg.

February, 1920	...	3'382
" 1921	...	3'872
" 1922	...	4'350
" 1923	...	4'695
" 1925	...	4'770
March "	...	4'780
April "	...	4'790
May "	...	4'850
June "	...	4'860
July "	...	4'860
August "	...	4'860

In May 1925, the £ stg. had recovered its gold value ; the average rate was within the gold points (4'89 and 4'83). The Bank of England resumed gold payments.

But England's return to the gold standard, without devaluing the £, was a mistake.

The external value of the £ was too high, and the

internal value was not correspondingly high.

The reader knows the meaning of external and internal purchasing power of a currency. In England, while the purchasing power of the £ in terms of gold was rising, wages and commodity prices did not fall sufficiently—or there was disequilibrium between the external and the internal purchasing power of the £. The result was a stimulus to imports, while exports from England were discouraged.

“Ah!” the reader will exclaim. “This was a short-period result. In the long run adjustment of costs and prices in England to the rate of exchange was bound to be reached.”

We agree with the reader that in the long run all adjustments required by pure theory are completed. In the long run we are also all dead. But consider the process of adjustment. When the external value of a country's currency is greater than its internal value, only two courses are open to a country, heavy deflation, which may sufficiently reduce cost and prices; and, failing that, depreciation of the currency.

Now deflation is no joke. A heavy restriction of credit will certainly lower prices, but lower prices, when costs of production do not fall in the same proportion, may mean the total disappearance of profits.

18. DISEQUILIBRIUM BETWEEN EXTERNAL AND INTERNAL PURCHASING POWER

A very important factor of cost in highly developed industrial countries like England is wages. Labour in England is strongly organised, and wage-cuts are violently resisted.

Whatever results might have been achieved in the mythical long run, the fact remains that the disequilibrium between external and internal purchasing power of the £ persisted, and when, at the same time, England's income from overseas investments began to fall, the balance of payments turned against England. England was forced to seek adjustment of internal to external purchasing power of the £ by going off gold.

The immediate cause of the abandonment of the gold

standard by England was the drain of gold. In May 1930, Creditanstalt, a large Austrian bank got into difficulties, and in 1931 a run started on banks in Germany. Simultaneously the Bank of England began to lose gold. The Bank rate was raised but the drain continued. In the last fortnight of July, 1931, the Bank of England lost over £30 millions. Uneasiness increased when it became widely known from the Report of the Macmillan Committee, published on July 13, that London had a large volume of short-term indebtedness. Its own short-term claims on Europe were smaller in amount and of little value, on account of the financial situation in Europe.

The Bank of England borrowed £50 millions from French and American banks at the beginning of August, and a further £80 millions was borrowed by the Government from the same sources. Still the drain continued. In the two months preceding September 21, the London money market lost over £200 millions. Between Wednesday morning (September 16) and Saturday mid-day (September 19) London lost over £43 millions of short-term foreign funds. On September 21 came the suspension of the gold standard.

The immediate cause of the breakdown of the gold standard in England was the drain of gold. But even if there had been no drain in August and September 1931, the drain was bound to start later. The crisis was inevitable in view of the lack of adjustment between the external and the internal purchasing power of the £. Curiously enough the Macmillan Committee rejected devaluation. They thought that lowering the value of the £ as a deliberate measure, after the return to gold in 1925, would mean the adoption of 'an entirely new principle' which would shock the entire financial world. The events of the two months following the publication of the Report showed that the Macmillan Committee had over-rated England's financial strength and under-rated the strain of falling agricultural prices and declining demand on debtor countries and the reaction of this on creditor countries.

At the ratio of 4·86 dollars the £ was over-valued. A currency is said to be over-valued when its external pur-

chasing power is greater than its internal purchasing power, so that its imports are subsidised and exports penalised. Conversely, when the rate of foreign exchange, or the external value of a currency, is such that exports are subsidised and imports penalised, the currency is said to be under-valued. There is very little doubt that at 18d. gold the rupee was considerably over-valued.

19. THE GOLD BLOC

The abandonment of the gold standard by England gave much-needed relief to British exporting industries and materially assisted recovery in that country. A few years later (Feb. 1, 1934) the United States devalued the dollar, as, at the old rate, the dollar was over-valued. But still an important Gold Bloc remained which valiantly endeavoured to maintain their currencies at pre-crisis or pre-war gold parities. The leader of this Gold Bloc was France; other prominent members were Holland, Switzerland and Belgium. The devaluation and depreciation of a number of currencies had created an entirely new situation unfavourable to the countries of the Gold Bloc. Their currencies were now very much over-valued, which penalised their exports. But they prepared to defend their gold parities by all the means in their power. The chief method employed for this purpose was deflation. If exports are declining because the currency of a country is over-valued, thus rendering its exports dear in terms of depreciated currencies, wages, interest and other elements of cost, as we have seen, must be drastically reduced. That is how equilibrium may be restored between internal and world costs and prices. But if a country carries a heavy load of public debt, taxation, to meet the annual interest charges, is heavy. Heavy taxes raise industrial costs. Therefore it is necessary to effect economies in Government expenditure. An unbalanced budget and deflation do not go together. From time to time, in the countries of the Gold Bloc, economy drives were enforced, and attempts were made to reduce both Government expenditure and costs of production. "The result was, of course, a cur-

tailment of purchasing power and an accentuation of the depression."² These haphazard efforts were succeeded by 'consistent deflation' which attempts to reduce prices, rents, wages, etc., through Government intervention. This 'method of self-castigation' was first adopted by Italy; Germany, Belgium, France and other members of the Gold Bloc followed Italy's example.

Commodity prices fell in these countries, but the result was an increase in the burden of public debt. "The burden of public debt made it impossible to balance the budget even on a lower plane." The efforts of the Gold Bloc to resist devaluation by co-operation were fruitless. "Co-operation confined itself to technical arrangements and to vague schemes of tariff concessions which never materialised." It became evident that the Gold Bloc must break up. The weakest link in the chain was Belgium, and the Belga, Belgium's currency unit, collapsed after a heroic resistance in March 1935. The chief industrial rival of Belgium is England, and the heavy depreciation of sterling had given a great advantage to British over Belgian manufacturers. The Government of Belgium attempted to reduce this disadvantage through deflation. A flight from the Belga began which 'assumed spectacular dimensions at the end of 1934.' The situation rapidly and miraculously changed after devaluation. "Trade activity increased as a result of better export possibilities and the moderate rising trend of prices." Confidence in banks was restored and there was 'a heavy surplus of foreign funds from abroad, since the Belga inspired confidence at its devalued level.'³

The experience of Holland and Switzerland was similar. Considerations of prestige in their case were more important than in that of France. France had devalued its currency in 1928. After the depreciation of sterling and the Scandinavian currencies, Holland and Switzerland alone were maintaining the value of their currencies at their pre-war parities. "It was considered a matter of prestige,

² *World Finance*, by Paul Einzig, p. 22.

³ Paul Einzig, *loc. cit.*, p. 32.

both in Holland and Switzerland, that their currency should be the last to yield to the world pressure for devaluation"⁴ They yielded finally. The collapse of the Belga and devaluation in Belgium led people in other countries to expect devaluation in the other countries of the Gold Bloc. Capital began to leave Holland, and then Switzerland.

20. FLIGHT FROM A CURRENCY

The flight from a currency can be easily explained. Suppose it is thought that the rupee is over-valued, and that Government would not be able to maintain the 18*d.* ratio. Then there is profit to be made by converting rupees into sterling at 18*d.* when 18*d.* per rupee is obtainable, and re-converting sterling into rupees when exchange falls. A flight from the rupee would begin when the 18*d.* ratio ceases to inspire confidence. The flight from the Dutch guilder and the Swiss franc abated toward the middle of 1936, and it appeared as if Holland and Switzerland had overcome the crisis which followed the devaluation of the Belga. In fact they had ceased to be the centre of world attention because of the crisis that had been developing in France, which led to the devaluation of the French franc.

A Tripartite Currency Agreement was concluded between the United States, France and England in September 1936 in virtue of which France devalued the franc. Further devaluation of the franc followed in 1937.

21. THE BRITISH OVERSEAS DOMINIONS

Even before England left the gold standard, Australia, New Zealand, and Canada were off gold in the sense that in these countries gold for export was not freely obtainable at par in exchange for notes. "The fall of their currencies against gold, and in some cases against sterling, helped the Dominions in several direct and indirect ways." The Dominions 'obtained higher prices for their exports in

⁴Paul Einzig, *loc. cit.*, p. 37

terms of their own currencies'; their manufacturing industries 'obtained a measure of protection against imports.'⁵

Both Australia and New Zealand stabilised their currencies at a rate below the sterling level. Before they went off gold, their £ was equal to the British £. In both cases the sterling value of the currency was fixed at the rate of £1 British = 1.25 £ of Australia or New Zealand.

The foregoing discussion should have made it clear to the reader that the gold rate at which a currency is stabilised is not a matter of indifference, and that it is not true that in the long run no rate of exchange is permanently advantageous or disadvantageous. If a country so fixed its rate of exchange as to over-value its currency, it may permanently lose its most important export markets; it may permanently lose all its gold reserve; and it may permanently reduce its workers to starvation.

22. COMPETITIVE CURRENCY DEPRECIATION

The abandonment of the gold standard by England gave rise to competitive currency depreciation. This may be judged from the following table which shows the value of the currencies of the leading countries in March 1932 and March 1939 as percentage of their gold parity in 1929⁶:—

		Value of currency as percentage of its parity in 1929.		Index Nos. of wholesale prices 1929=100.
		March 1932	March 1939	
Canada	...	89.5	58.8	76.6
United States	...	100.0	59.1	80.5
China	...	56.2	22.7	172.1
India	...	74.8	56.7	68.1
Iran	...	60.5	38.5	129.7
Japan	...	99.0	32.4	120.5

⁵*Slump and Recovery*, by Hudson (Oxford University Press), p. 175.

⁶Statistical Year Book of the League of Nations, 1939.

⁷For January, 1939.

		Value of currency as percentage of its parity in 1929.		Index Nos. of wholesale prices 1929=100.
		March 1932	March 1939	
Belgium	...	100·2	71·5	70·5
Denmark	...	74·7	46·1	100·9
Spain	...	51·8	18·6 ⁸	126·1 ⁹
France	...	100·4	39·9	108·9
Greece	...	99·2	39·1	119·7
Italy	...	98·5	59·0	102·3
Norway	...	73·1	51·9	99·3
Holland	...	100·2	78·0	70·0
Portugal	...	74·2	56·7	96·2 ¹⁰
United Kingdom	...	74·8	56·9	84·6 ¹¹
Sweden	...	74·1	53·2	90·7
Switzerland	...	100·2	69·2	74·6
Australia	...	59·7	45·3	97·8
New Zealand	...	68·3	45·5	104·0
Germany	...	99·8	99·4	77·7

The figures in the table given above illustrate the chaotic condition of the world's currencies. The gold value of the rupee has fallen with that of the £ sterling; several currencies have fallen more heavily than sterling.

Apparently there was no fall in the gold value of the German mark. But this is a deception. German exchange is not free; it is regulated by Government, and there are different kinds of marks for different purposes which have depreciated at different rates. There is, for example, Reise-mark, or tourists' mark, which, in March 1939, was worth 54·7 per cent. of the gold parity of 1929.

⁸For January, 1939.

⁹For August, 1938.

¹⁰For February, 1939.

¹¹Board of Trade.

Currencies of different countries are, however, not fluctuating independently of each other. A great number of countries have kept their exchanges *de facto* in a fixed relationship with sterling, the United States' dollar or some other currency. The two most important currency groups are represented by the sterling and the dollar. Before the outbreak of the present war the following countries were included in the two groups:—

Sterling group:—

Argentina, Bolivia, Iran, Japan, Malaya, India, Denmark, Estonia, Finland, France, Greece, Iceland, Norway, Portugal, Sweden, Australia, New Zealand.

Dollar (U.S.) group:—

Brazil, Chile, Columbia, Costa Rica, Ecuador, Gautemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Salvador, Venezuela.

An attempt is also made to control fluctuations of exchange due to speculative and abnormal causes with the help of special funds created for the purpose. These are known as Exchange Stabilisation or Equalisation Funds. Britain took the lead in establishing such a fund in 1931.

The following table shows rates of foreign exchange (spot) quoted in London on June 22, 1939:—

Exchange Rates
London—Spot
(Range of the day's business)

<i>London on</i>		Par of exchange per £	June 22, 1939
New York, \$ (dollar)	...	4·86 $\frac{1}{2}$ ¹²	4·68—68 $\frac{1}{2}$
Montreal, \$ (dollar)	...	4·86 $\frac{1}{2}$	4·69—69 $\frac{1}{2}$
Paris, Franc	...	124·21 ¹²	176 $\frac{1}{2}$ — $\frac{1}{16}$
Brussels, Belga	...	35·00 ¹⁴	27·52—54
Milan, Lira	...	92·46	88 $\frac{1}{2}$ —89 $\frac{1}{2}$

¹²Par 8·23 $\frac{1}{2}$ since dollar devaluation on February 1, 1934.

¹³Parity of 1928.

¹⁴Prior to devaluation April 2, 1935.

<i>London on</i>	Par of exchange per £	June 22, 1939
Zurich, Franc ...	25·22 $\frac{1}{2}$	20·76—78
Athens, Drachma ...	375	540—555
Amsterdam, Florin ...	12·107	8·81 $\frac{1}{2}$ —82
Berlin, Mark ...	20·43	11·66—68
Mexico, Peso ...	9·76	unquoted
Moscow, Rubles ...	...	24·81—81 $\frac{1}{2}$
Madrid, Peseta ...	25·22 $\frac{1}{2}$	42 $\frac{1}{4}$ ¹⁵
Lisbon, Escudo ...	110	110—110 $\frac{1}{2}$
Warsaw, Zloty ...	48·38	24 $\frac{3}{4}$ —25 $\frac{1}{8}$
Bucharest, Lei ...	813·8	650—670
Istanbul, Piastre ...	110	580
Belgrade, Dinar ...	276·32	205—215
Oslo, Kroner ...	18·159	19·85—95
Stockholm, Kroner ...	18·159	19·45—45
Copenhagen, Kroner ...	18·159	22·35—45
Alexandria, Piastre ...	97 $\frac{1}{2}$	97 $\frac{3}{8}$ — $\frac{5}{8}$
Kobe, Yen ...	24·58d. ¹⁶	13 $\frac{1}{16}$ —14 $\frac{1}{16}$

23. PURCHASING POWER PARITY

When two countries are on the gold standard, the Mint Par between them is fixed. Suppose both countries leave the gold standard and their paper currencies depreciate in terms of gold. How will the rate of exchange between them be determined?

Let us take two countries A and B. In both countries paper money is inconvertible into gold. What will be the

¹⁵Official.

¹⁶Pence per unit of Japanese currency.

price of A's paper money in B?

Why should one country want the paper money of the other country? A's paper money cannot circulate in B, nor B's paper money in A, but paper money of each country possesses purchasing power in terms of goods of the same country. With A's paper money B may buy A's goods, and with B's paper money A may buy B's goods.

It is evident that the ratio of exchange between A's and B's paper money will depend on the relation between the purchasing power of paper money of the two countries.

For example, suppose that after leaving the gold standard, the purchasing power of money falls to $\frac{1}{2}$ in A and to $\frac{1}{4}$ in B. This means that while prices in B double, they quadruple in country A. In terms of purchasing power the paper money of B is now twice as valuable as that of country A. If before the change, 1 unit of B's money exchanged for 20 units of A's money, now it will be worth 40 units.

This is the famous theory of purchasing power parity which was universally discussed in the years following the Great War. Paper money of most countries had depreciated and prices had risen. The purchasing power parity theory furnished an explanation of rates of exchange when Mint Pars had disappeared. When there is inflation in two countries, the rate of exchange is determined by the degree of inflation in the one country as compared with the degree of inflation in the other. If prices in England double, while prices in India rise by 50 per cent., the purchasing power of money in England is $\frac{1}{2}$, and in India $100/150$, or $2/3$ of what it was before. Therefore a unit of Indian money in terms of purchasing power, is equal to $\frac{2}{3} \times \frac{3}{2} = \frac{4}{3}$ units of English money. If before the change, a rupee was equal to 18d., now it will exchange for $\frac{18 \times 4}{3} = 24d.$ or 2s. That will be so because the purchasing power of 2s. in England, after the doubling of prices in that country, is equal to the purchasing power of 1 rupee in India, after the rise in Indian prices from 100 to 150.

Suppose the rate of exchange does not rise to 2s.—it remains 18d. as before. This means that British money is

over-valued, or its external purchasing power is greater than its internal purchasing power. The over-valuation of British money will subsidise imports into England and penalise exports from England. When imports into England exceed exports, the demand for rupees, or Indian currency, will be greater than the supply. The price of Indian bills in London, or of rupees, will rise, and when equilibrium is reached, 2s. will be given for a rupee.

If, on the other hand, the rate of exchange is 3s. per rupee, British money is under-valued, and the rupee is over-valued. Imports into India will increase, and our exports decrease. Demand for London bills in India will be greater than the supply, and the price of sterling (British paper money) will go up—or our rate of exchange will fall. Equilibrium will be restored when the rate of exchange has fallen to 2s.

24. UNWARRANTED ASSUMPTIONS

The theory of purchasing power parity is true if we assume: (1) that the rate of exchange is not influenced by such factors as the speculative buying or selling of currencies, which has not much to do with commodity prices, nor with the movement of funds from one country to another due to banking requirements or Government transactions, which are again unrelated to changes in commodity prices; (2) that the movement of all goods, which enter into the calculation of purchasing power parities, from one country to another is absolutely free, and not restricted by prohibitions or quotas; and (3) that we have a satisfactory method of calculating the index of purchasing power.

In real life these conditions are never realised.

Speculative buying or selling of a currency, owing to changes in political conditions or other causes, may raise or lower its price independently of changes in commodity prices. In India, Government remittances play an important part in determining the rate of exchange. A sudden increase in the demand of bankers for sterling will raise its price or lower our exchange rate. It cannot be argued that bankers' operations or Government exchange transactions are directly governed by changes in commodity prices.

Nor can we ignore restrictions on the movement of goods. In view of the difference between the internal and external purchasing power of the yen, a stimulus may be given to Japanese exports. But the difference will remain uncorrected if quotas and prohibitions abroad limit imports from Japan.

Finally, index numbers of wholesale prices in different countries are useful only for comparing the general trend of prices in different countries. For exact calculation of purchasing power parities it will be necessary to construct them on a uniform basis. And, if index numbers include commodities which do not give rise to exchange operations, purchasing power parities calculated with their aid will not coincide with actual rates of exchange, except by chance.

15. GOLD PARITY IS NOT PURCHASING POWER PARITY

It deserves to be emphasized that when 1 rupee = 18*d.*, it does not follow that the purchasing power of one rupee in India is equal to the purchasing power of 18*d.* in England. Even the Mint Par is not a par of purchasing power. It is just a gold par. When the rupee was equal to 8.475 grains of gold, it did not mean that the purchasing power of 8.475 grains of gold in India was equal to the purchasing power, in terms of goods and services in general, of 8.475 grains of gold (or 18*d.*) in England.

For one rupee a *dhobi* in India will wash 16 tennis shirts and do it very well. In England the charge is 6*d.* per tennis shirt, or 3 shirts for 18*d.* The purchasing power of a rupee in terms of *dhobi's* services is more than five times greater in India than in England. For two annas a tailor in India will nicely iron your coat; the charge is 1 shilling in England. For two annas, even 1½ annas, one may have a fairly satisfactory meal in India; the cost is higher in Europe. The cost of sleeping accommodation on railway trains in India is much lower than in Europe. These differences in the purchasing power of money in different countries are possible because many goods and services do not enter into international trade. There is no export from

India of *dhobis*, tailors, or of railway transportation. If all goods and services freely entered into foreign trade, the purchasing power of an ounce of gold will be the same in all countries, and rates of exchange would reflect purchasing power parities, both under the gold standard and under the paper standard. Since this assumption is fundamentally untrue, a calculation of rates of exchange on the basis of purchasing power parities is misleading.

But, generally speaking, we should expect a greater rise of prices in a country whose currency unit has depreciated to a greater extent, though there is no mathematical relationship between the external depreciation of currency and the internal rise of prices.

A reference to the table given above to illustrate competitive currency depreciation will make this clear. First we note that while the United States dollar had lost 41 per cent of its gold value in March 1939, American prices in March 1939 were actually lower, not higher, as compared with 1929 (80·5). Our prices were lower still (68·1) while the rupee had lost more of its gold value (43·3 per cent). Strictly, according to the purchasing power parity theory, our index number of prices should have stood higher than the index number of the United States.

In March 1939 Japan's yen had lost 67·6 per cent. of its gold value. The depreciation of the yen exceeded that of the rupee, and we should expect Japan's prices to be relatively higher than our own. In fact they were higher.

Similar was the case with prices in France and Greece. But no mathematical relationship can be established between the rise of prices in these countries above the level of 1929 and the greater fall in the gold value of their currencies as compared with the rupee.

Prices both in Holland and Belgium were slightly higher than our own, while their money had suffered less depreciation than the rupee. Finally, the depreciation of currency was equal in India, Portugal and the United Kingdom, but prices were higher in Portugal (96·2) and the United Kingdom (84·6) than in India (68·1). For reasons explained above, no equality of prices could be expected.

26. INFLUENCES WHICH LEAD TO GOLD EXPORTS AND IMPORTS

We may here summarise the influences which determine the inflow and outflow of gold.

(a) *The Balance of Trade*.—Let us assume that the import and export of goods is free, and that gold can freely flow in and out.

For goods exported India will become a creditor of other countries, and for goods imported a debtor. If we have an excess of exports of goods over imports, and have no payments to make on any other account, gold will flow into the country. Similarly, a country with an excess of imports over exports of merchandise will lose gold, other things being equal.

(b) *Balance of Payments*.—In addition to goods, services have to be paid for. It follows that if the balance of payments is favourable to a country, it will import gold, and if unfavourable, it will export gold.

India was a heavy importer of gold and silver in the 16th and 17th centuries as not only the balance of trade but the balance of payments was then in our favour. For the same reasons India imported gold heavily during the first thirty years of the present century. We have now large payments to make to foreign countries on account of the import of capital and services in various forms, but exports of goods so much exceeded imports of goods during 1901-1931 that, after meeting all claims against us, a net balance remained in our favour, which was adjusted by the import of gold.

(c) *Rate of Exchange*.—An unfavourable rate of exchange ($17\frac{1}{2}d.$ per rupee or less) would lead to an export of gold and a favourable rate of exchange ($18\frac{1}{2}d.$ or more) to an import of gold into India. But the rate of exchange, as we have seen, itself depends on the balance of payments.

(d) *Loans*.—A loan, when made in gold, causes an outflow of gold from the lending country and inflow of gold into the borrowing country. But, as we have seen, loans are usually made in the form of goods.

Suppose a particular country, e.g., the United States, has acquired a tremendous pull on the world's gold, on account

of loans made by it to foreign countries, and its exports of goods and services. Gold will tend to flow to the United States, but the United States may reinvest the money in the debtor countries. This is usually done. An impossible situation is created when a creditor country refuses to receive payments due to it in goods and to reinvest its savings abroad. It will accumulate gold at the cost of other countries, which may be forced off gold. This is all the more likely to happen when the gold-importing country 'bottles up,' or simply hoards, the gold imported.

(e) *Banking requirements*.—Capital may flow from one country to another for reasons unconnected with the movement of goods. A rise in the Bank rate in one country attracts gold from other countries.

(f) *Speculation*.—Speculators buy and sell currencies particularly when rates of foreign exchange are fluctuating violently. Much capital was thus acquired by Germany during 1922-24.

(g) *Flight from Currency*.—If Indian capitalists lost confidence in the rupee, they may seek to convert rupees into sterling or dollars. Gold would begin to flow from India. Repatriation of our capital later will cause the reverse movement—or a flow of gold to India.

(h) *Inflation*.—If inflation takes place in a particular country, say, India, prices will rise, making the country a good market to sell in and a bad market to buy in. Exports will decrease and imports increase, which will turn the balance of trade against India, and cause an outflow of gold.

Inflation reduces the internal purchasing power of money. At the same time the external purchasing power of money also falls. If the fall in the external purchasing power of money is greater than the fall in the internal purchasing power, the country's imports are penalised and exports subsidised.

We may next consider a group of influences which cause gold movements by their action on exports and imports of goods.

(i) *Demand*.—If the foreign demand for a country's exports declines, the country will lose gold unless imports are proportionately reduced. This is the situation in which

India finds herself at present. Owing to the revolution in agricultural methods abroad and the progress of agriculture in the industrial countries of Europe, the foreign demand for our staple exports has fallen. If we do not cut down imports of goods and services, we must be prepared to lose gold.

(ii) *Technical progress*.—Suppose technical advance takes place in India rendering us independent of foreign manufactures. Suppose, further, that we have no Home Charges to pay, nor heavy obligations to meet annually on account of foreign capital invested in India—in short the conditions which determined our balance of payments in the 16th and 17th centuries are restored. We shall then be in a position to import gold.

(iii) *Population*.—By itself the growth of numbers is of little significance in connection with the import or export of gold. India imported gold heavily between 1901 and 1930 when her population increased, and she has exported gold on an unprecedented scale during the past ten years, the population having continued to increase. The causes of export or import of gold lie, not in the changes of population, but in the terms of foreign trade and the other influences mentioned above.

It is sometimes argued that if population increased in a country, it will require more money, and obtain it through imports of gold. It is supposed that prices and incomes in the country will tend to fall, which would check its imports and stimulate its exports, thus attracting gold.

Suppose the population of India rapidly increases during the next ten years, while the population of other countries remains practically stationary. Would this change by itself lead to imports of gold into India?

No. Gold will be imported (a) if the growth of numbers is accompanied by a considerable increase in production, (b) if there is a demand for our exportable surplus of commodities in foreign countries, and (c) if imports increase by a smaller percentage than exports.

Conceivably a great increase in numbers may not be accompanied by a sufficient increase in production, in which case a country may, so far from importing gold, have to

part with whatever gold it possessed to pay for necessary imports of food and other articles.

(iv) Finally, a country may export gold because it treats gold like any other article of merchandise, and finds it profitable to sell it abroad. That is what we have been doing in recent years.

CHAPTER XX

MONETARY SYSTEMS

Having learnt the meaning of the rate of foreign exchange, why foreign exchanges rise and fall, and how fluctuations in the rate of exchange are connected with the import and export of gold, we may resume the discussion of monetary problems. In this chapter we are chiefly concerned with monetary systems.

1. GOLD OR SILVER CURRENCY STANDARD

Our system of money before 1893 may be described as the silver currency standard, or silver mono-metallism, or just the silver standard.

England adopted the gold standard in 1816. This gold standard was the gold currency standard.

A distinction is necessary between the gold standard and the gold currency standard. The two terms are often used interchangeably, but a country may adopt gold as the standard of value without putting gold coins into circulation. When gold money is used in buying and selling, and gold is also the official standard of value, the monetary system is correctly described as the gold currency standard.

The silver rupee of 180 Troy grains, eleven-twelfths fine, was made the standard coin by the East India Company throughout British India in 1835. It was at the same time enacted that "no gold coin shall henceforward be a legal tender for payment in any of the territories of the East India Company." The coinage of gold was, however, continued, and gold coins were received into public treasuries at their denominated value. But gold had no legal status, since gold coins had been deprived of the legal tender quality. British India officially adopted the silver standard

in 1835. And since the standard of value, silver, was embodied in standard silver coins, whose face value was equal to their intrinsic value, the Indian monetary system between 1835 and 1893 was the silver currency standard.

Silver or gold mono-metallism does not mean that only one metal is used as money. When silver or gold is used as the standard of value, subsidiary coins may be made of cheaper metals (copper or nickel or two or three baser metals combined). A mono-metallic system is so called because one metal alone is the standard of value. Mono-metallism is to be distinguished from bimetallism, under which both gold and silver are concurrently standards of value, or both are unlimited legal tender at a fixed ratio, and standard coins made of both metals circulate side by side. We shall discuss bimetallism separately. When gold and silver are combined in a fixed ratio in the same standard coin, the system is known as symmetallism.

Let us consider the working of a gold or silver currency standard.

Between 1835 and 1893 our silver mints were open to free coinage. Any one could take his silver bullion to the mint and get it turned into coins. In times of famine coinage increased; people in need converted their silver hoards and silver ornaments into coins. And, since there was no difference between the face value and the intrinsic value of the rupee, rupees could be easily melted down whenever desired and turned into ornaments again.

The gold currency standard functioned in England from 1816 to 1914. On the outbreak of the Great War gold suddenly disappeared from circulation both in India and England.

Gresham's Law.—It may be explained here that a gold coin, which is legal tender at Rs. 15, will not be used for buying and selling or for the payment of debts, when it can be sold as bullion for more than Rs. 15. Similarly silver rupees disappeared from circulation during the latter years of the Great War when their intrinsic value became greater than their face value on account of the rise in the price of silver. Silver rupees were replaced by paper rupees, or notes, and there was a slight discount on notes.

Bad money tends to drive good money out of circulation. This is known as Gresham's Law (Sir Thomas Gresham was the financial adviser of Queen Elizabeth). When there is a premium on gold or silver coins and a discount on notes, paper drives gold or silver coins out of circulation. Similarly when full weight coins are in circulation side by side with defaced and worn coins, there is a tendency to hoard the former.

When the supply of good and bad money taken together is less than the amount required by a country for business purposes, bad money is not successful in driving good money out of circulation. Good money disappears when the total supply of good and bad money together is in excess of the needs of a country.

Automatic working of the gold or silver currency standard.—When coinage is free, the supply of money will automatically adjust itself to the demand for it.

Suppose trade and industry require more money. The scarcity of money will reveal itself by a fall in commodity prices, or the purchasing power of money will increase. If an ounce of gold in the form of coins will exchange for more goods and services than an ounce of gold bullion, people will turn bullion into coins. It is possible to do so, because the mints are open to the free coinage of gold.

If the supply of money is at any time greater than the demand for it, the purchasing power of money in terms of goods and services will decrease, or prices will rise. The excess currency can be easily got rid of through the melting down of coins.

Under these circumstances the purchasing power of an ounce of gold bullion will be the same as that of gold coins equal to an ounce.

Let us suppose that the balance of trade is strongly in favour of England so that England imports more and more gold. This gold is turned into coins and is added to the circulation. Prices in England will rise. When they have risen above the level of other countries, England will become a good market to sell in and a bad market to buy in; her imports will increase and exports decrease. The balance of trade will become unfavourable, necessitating

the export of gold. If circulation consisted entirely of gold, gold coins would be exported, and the circulation thereby reduced.

Under the silver standard in India the rupee could be freely exported. An export of rupees on a large scale would reduce the volume of the currency and tend to bring down prices.

A gold or silver currency standard works with the minimum of interference on the part of Government. It has been said that in currency matters Government should do as little as possible. From this point of view a gold or silver currency standard is best.

A gold currency standard is to be preferred to a silver currency standard for the reason that gold is the medium of payments in international trade. We have seen that under the silver standard we had no fixed rate of exchange with gold-using countries. A stable rate of exchange is better than a rate of exchange which is constantly rising or falling in an unpredictable manner. A return to the silver standard is sometimes advocated for India. In view of the preference for gold as the standard of value in other countries, a return to the silver standard is unthinkable in India.

2. THE GOLD BULLION STANDARD

The gold currency standard is expensive. When a currency consists entirely of gold, or is saturated with gold, a very large amount of the precious metal is rendered useless for other purposes. The wear and tear of gold coins in circulation is, in addition, a source of considerable annual loss.

The ideal currency is not gold but paper. The cost of maintaining a paper circulation, as compared with that of a gold circulation, is negligible. Paper is also more conveniently carried in one's pockets.

Suppose all coins are withdrawn from circulation (except those required for small change) and replaced by paper. Suppose further that paper is directly convertible, not into gold coins, but gold bullion for all purposes, i.e., no

questions are asked as to the object for which gold bullion is required in exchange for paper. Further, if steps are taken to see that the note circulation fluctuates precisely as a gold circulation would have fluctuated, we get the ideal currency system.

We have seen that money is wanted, not for its own sake, but for the sake of goods and services which it enables us to procure. From this point of view paper is as good money as gold. When the gold sovereign was legal tender in India at 15 rupees, it did not enable one to buy more goods or to pay more debts than an equivalent amount in paper money. If paper will do all the work of gold money, and as satisfactorily, it is to be preferred to gold on account of its lower cost.

Under the gold bullion standard, demand for conversion of notes into bullion will arise when large payments have to be made in settlement of foreign indebtedness. Gold bullion cannot circulate as money. Under the gold bullion standard, then, internal currency consists of paper alone, which is unlimited legal tender. For foreign payments the currency authority (e.g., the Central bank) is always ready to convert paper into gold bullion.

England adopted the gold bullion standard in 1925. The sovereign ceased to be legal tender and the Bank of England undertook to give gold bullion in exchange for notes in amounts not less than 400 fine ounces. The limitation in regard to the minimum amount of gold which can be obtained from the Central bank is necessary to free the Central bank from the duty of supplying gold for internal needs. Gold is wanted in large amounts usually for export.

The Bank of England was prepared to buy standard gold 11/12 fine at £3-17-9 and to sell it at £3-17-10½. Thus gold bullion was convertible into paper money, and paper money into gold bullion. The gold bullion standard was functioning in England till September 21, 1931, when England went off gold.

3. THE GOLD EXCHANGE STANDARD

India has very considerable experience of the gold exchange standard.

As under the gold bullion standard, internal currency under the gold exchange standard consists of notes and token coins. But under the gold bullion standard notes are convertible into gold bullion for all purposes, while under the gold exchange standard token money is converted into gold exchange or gold only for purposes of foreign payments.

In India 'gold exchange' meant sterling. Under the gold exchange standard Government converted rupees and notes into sterling at a fixed rate.

No definite date can be assigned to the introduction of the gold exchange standard in India. The fall in the price of silver in 1873 created difficulties for the Government of India. Our Home charges then amounted to about £15 millions annually, and the fall in the price of silver, by causing a fall in the rate of exchange, increased the burden of the Home charges. Further, investment of British capital in India received a check, and foreign trade became a gamble in exchange.

What was to be done? How could the rate of exchange be stabilised when the gold value of the rupee was determined by its silver contents?

As early as 1876 it was suggested by Major General Sir Richard Strachey that the silver mints should be closed to the free coinage of gold, that the gold value of the rupee should be fixed artificially, and that rupee notes should be issued against gold at the rate fixed. This was also the essence of the proposals in regard to Indian currency reform made to the Indian Currency Committee of 1898 by Mr. Lesley Probyn and Mr. A. M. Lindsay.

When the rupee is no longer freely coined, it will become a token coin. Government may then fix its gold value and maintain it.

How is the gold value of a token coin maintained under the gold exchange standard?

Demand for conversion of rupees and notes into gold

exchange will arise when payments have to be made to foreign countries. Suppose now a gold reserve is built up, and kept abroad, say, in London. When there is an adverse balance of trade, Government of India will sell sterling bills in India which will be met out of the gold reserve in London.

When the balance of trade is in India's favour, gold will be imported. Government of India will convert the gold into rupees and notes at the fixed rate.

Exchange will remain stable so long as the Government are prepared to convert gold into rupees and notes, and the latter into foreign exchange, e.g., sterling, at the fixed rate.

In the last quarter of the 19th century the gold exchange system gave rise to a prolonged and heated controversy. The gold exchange system is a gold standard without gold in circulation. Was it possible to effect a divorce of the currency from the standard of value? Was it not necessary to introduce gold into circulation if gold was made the standard of value?

The authorities in India did not appreciate the novel idea of establishing a gold standard with a currency mainly composed of token silver rupees. Major General Strachey's proposal called forth a spirited reply¹ from R. B. Chapman, a

¹ "I am astounded that you should propose such a tremendous heresy as a *permanent* divorce between the standard and the currency. Surely this is nothing in the world but an inconvertible currency, limited, it is true (though I observe that you would not even *limit* it absolutely), but still inconvertible. If we are to go in for an inconvertible currency, why should we go to the useless expense of having it in silver; surely it would be only commonsense to go to *paper* at once? I have seen plainly that we must go through a period of inconvertible currency of silver with a gold standard; but I have always looked upon this as an evil of the first magnitude from which we should use every exertion to escape at the very earliest opportunity. It startles and staggers me that you should say that such a man as yourself, to say nothing of the rest of the powers that be at the India Office, should have been seduced into thinking otherwise for an instant.....Have you not altogether underrated the volume of our silver currency too? A true silver subsidiary currency must, I maintain, be treated as a note currency, i.e., it must be issued only in exchange for gold, and the State should be compelled to give gold for it, at convenient centres, on demand, everywhere. Only on these conditions will a silver subsidiary coinage be on a really sound footing; and upon this footing even

former high financial officer of the Government of India, and in a despatch to the Secretary of State the Government of India expressed their views on the proposal in no uncertain terms.²

Mr. Lesley Prabyrn was opposed to introducing a gold circulation in India for he thought that 'it would be at first like pouring water into the sieve.' About his scheme of a gold standard without a gold currency, the Fowler Committee (1898) remarked that it did not "accord with either European or Indian usage that the standard metal should not pass from hand to hand in the convenient form of current coin" (Para. 50). The Fowler Committee rejected the gold exchange standard and recommended the adoption by India of a gold standard with gold in circulation, or the gold currency standard.

Eventually, however, India came to possess the gold exchange standard. The Secretary of State for India in Council sold bills, called Council bills, on India for the convenience of British traders at a price not exceeding 1s. 4½d. per rupee, and when there was a demand for foreign means of payment, the Government of India sold reverse Councils in India, drawn on the Secretary of State for India in London, at a rate not more unfavourable than 1s. 3¾d. Exchange was thus maintained within the gold points (16½d. and 15¾d.). The Indian Currency Commission

India will not want, I believe, more than 30 crores at the outset if indeed she wants as much. You cannot seriously think we could for a permanency avoid calling in the 170 crores of rupees that we should have in excess of our wants. Nor can I seriously believe that an accurate thinker like yourself would deliberately consent to entrust to any Government on earth the power to issue token coinage at its discretion to pass as full legal tender. No human Government has yet existed who could be trusted with such a power."

"We are thus quite aware that our standard of value might be enhanced without any immediate change in the body of our currency; and that we might, for a time, enjoy many of the advantages of a gold standard, without undergoing the expense of introducing a gold currency. But we wholly distrust the advice and conclusions of those who think that such a state of things could be tolerated permanently, or even for any considerable length of time: in other words, that we could introduce an enhanced standard, and yet, indefinitely, escape the obligation to introduce an enhanced currency."

of 1913 approved of the measures adopted to maintain exchange.

4. DEFECTS OF THE GOLD EXCHANGE STANDARD

It should not be supposed that as soon as a country has conferred an artificial gold value upon its silver coin, the market price of silver becomes a matter of indifference. Violent fluctuations in the price of silver in either direction would destroy the system, or make it impossible to work. The essential feature of a gold exchange system is the use, for the purposes of internal circulation, of a token coin, which is convertible into gold for foreign remittances at a more or less constant rate. When a token coin ceases to be a token coin, on account of the rise in the value of its metallic contents, the gold exchange system automatically ceases to exist. It thus appears that the existence of the gold exchange system and its successful operation depend upon steadiness in the value of silver. For the purposes of the gold exchange system it is comparatively a matter of indifference whether the ratio of silver to gold is high or low, but it is not a matter of indifference whether the ratio is steady or subject to frequent and violent changes.

This aspect of the question was duly considered by the American Commission on International Exchange of 1903. In the arguments submitted by the American Commission to the foreign Commissions there was a whole section devoted to "Considerations regarding the price of silver." "Whether the absolute price of bar silver be high or low," wrote the American Commission, "is a matter of comparatively slight importance, inasmuch as the ratio would be fixed to correspond, provided the price remains steady; but if after a ratio had been once fixed, the price were to increase decidedly (so that the bullion value of coins exceeded their nominal value) the coins would be melted down and the system would be destroyed. On the other hand, if the price of silver were to fall very low, the burden of maintaining the parity would be heavier, inasmuch as a larger gold reserve fund might be required to maintain confidence. It is extremely desirable, therefore, especially for the countries that are somewhat weak financially, that the price of silver bullion should remain steady at a point somewhat near the ratio agreed upon."

In India attention was concentrated on devising means for preventing the rupee from falling below a certain level.

The possibility of a rise in the rupee much above its gold parity was never seriously considered by Government or any one else. This is certainly curious in view of the fact that the rise in the price of silver in 1906-07 caused the gold exchange systems of several countries to collapse, though it did not affect us.

The rise in the price of silver in September 1917 to 55*d.* put an end to our gold exchange system. The rupee ceased to be a token coin—there was profit in melting and exporting it. As the price of silver continued to rise, the maintenance of the old ratio, 16*d.* to the rupee, became impossible. The rise in the cost of production of the rupee compelled the Secretary of State to raise the price of rupees.

The liability of the gold exchange system to break down, when the price of silver rises above the bullion par of the silver token, is a serious defect of the gold exchange standard.

Bullion par means equality with bullion. When the price of silver rises so much that the face value and the intrinsic value of the rupee become equal, the rupee ceases to be a token coin. If the gold value of the rupee is 16*d.*, a rise in the price of silver above 43*d.* per ounce will make its face value equal to its intrinsic value; if the gold value of the rupee is 18*d.*, rise in the price of silver above 49*d.* per ounce will make it profitable to melt down rupees.

A second defect of our gold exchange standard was that the rupee was linked to sterling only; when sterling depreciated in terms of gold, the gold exchange standard was turned into the sterling exchange standard.

A third defect was revealed by the actual working of the currency system.

System not automatic.—Under an automatic system of currency, e.g., the gold currency standard, when gold in circulation is in excess of the needs of trade, excess gold would be melted down or exported in the manner we have explained above. Under the gold exchange standard, it may be supposed, that currency would be automatically reduced when foreign bills (Reverse Councils) are sold for token currency. But the reduction of the currency depends on the will of the Government. Government may reduce

the currency by the full amount of the Reverses sold or by a smaller amount. This is shown by the following statement :—

Years	Amount of Reverses sold, £ 1,000	Rupees received for Reverses sold, Lakh Rs.	Amount of con- traction effected, Lakh Rs.
1907-08-09	8,058	12.16	12.16
1909-10	156	21	nil
1914-15	8,707	13.16	1.05
1915-16	4,893	7.38	31
1918-19	5,315	7.08	nil
1919-20-21	55,532	47.14	31.68

The Report of the Indian Currency Commission of 1925 refers to 'the absence of contraction on occasions when the currency authority has had to sell sterling exchange.' In 1920 the consequences of this were 'disastrous.' And the Report adds :

"There must ever be danger of such disaster under a system which does not automatically enforce contraction of internal currency with the depletion of reserves."

Three high officers of the Government of India (Sir Basil Blackett, Finance Member, Government of India; Mr. McWatters, Secretary to the Government of India, Finance Department; and Mr. H. Denning, Controller of Currency) were so much impressed with the defects of the gold exchange standard that in a Memorandum to the Currency Commission of 1925 they advocated the establishment of the gold standard in India with a gold circulation. They said :

"Undoubtedly the ideal to be aimed at is the system now in force in Great Britain, under which the note is the sole legal tender in circulation, and the gold value of sterling is stabilised by the statutory obligation imposed on the Bank of England to buy and sell gold at rates corresponding roughly to the par of exchange. It is impossible, however, to hope that conditions in India will for generations be such that a full legal tender metallic currency will be no longer necessary. If, therefore, a gold currency is not introduced, defects in the Indian currency and exchange

system must remain indefinitely. There is, moreover, reason to suppose that the introduction of a gold currency would hasten the attainment of the ideal system, as the fact that notes were convertible into gold and not merely into an overvalued silver coin, would tend to increase confidence in the note-issue and to decrease the demand for metallic currency. The conclusion is that the only way of remedying all the defects in the system within a reasonable period is by establishing a gold standard with a gold currency in circulation."

✕ An ideal currency system for the United Kingdom is not necessarily an ideal currency system for India, in view of the illiteracy and ignorance of our masses. There is no doubt at all that the masses in India prefer money made of metal.

The Currency Commission of 1925 rejected gold currency standard as impracticable. It is still more so to-day.

5. GOLD BULLION STANDARD FOR INDIA

We are thus left with the gold bullion standard of the Currency Commission of 1925. When it comes, notes will cease to be convertible into silver rupees. In fact this convertibility now only means that in exchange for the paper rupee, whose intrinsic value is *nil*, a silver rupee is given whose intrinsic value is 4 to 5 annas. There will be no gold in circulation. But gold in the form of bars will be bought and sold by the Reserve Bank of India in amounts not less than 400 ounces.

The Reserve Bank cannot sell gold at a price lower than the market rate. If it did, the bullion market would cease to exist, and the Reserve Bank would very quickly lose all its gold reserve.

The Reserve Bank's obligation to sell gold will therefore be so framed 'as to make it unprofitable for gold to be bought from it except in circumstances in which it would be profitable to do so for purely monetary purposes.' The reasons for so framing this obligation were fully stated in Schedule I attached to the report of the Currency Commission of 1925.³

³ "It cannot be assumed that, in the case of India, gold movements can be confined to those for purely monetary purposes; unless, therefore, the Central Bank is relieved of the necessity of supplying gold within the two gold points of the exchange, it would be exposed to a constant drain

It would seem that so far as the convertibility of paper money into gold is concerned, the difference between the gold exchange and the gold bullion standard is not of very great significance. In both cases gold is given for foreign payments only. Dr. Edwin Cannan in his evidence before the Currency Commission of 1925 thus commented on the difference between the gold exchange system and the gold bullion standard :

"I think when you get on to the bare bones of the gold exchange system, there is very little difference between the two ; some people say that this country [England] is on a gold exchange standard system now."

The difference is nominal. If sterling is equal to gold, it is a matter of indifference if rupee notes are converted into sterling exchange (gold exchange standard), or gold bullion.

6. STABLE EXCHANGE *versus* STABLE PRICES

The monetary systems we have discussed so far secure a stable rate of exchange. Under the gold currency standard,

upon its gold reserves for purposes other than those for which they are held. The gold and gold security reserves of a Central Note-Issuing Bank serve the purpose of rectifying a temporary disequilibrium in the balance of foreign payments. They are held to enable external obligations to be discharged pending an adjustment being achieved (by an appropriate credit policy) of the value of the currency to its parity with gold. The reserves exist to assure the maintenance at parity with gold of the purchasing power of the monetary unit, i.e., to meet purely monetary needs. It is evident that, if they can be drawn upon in the ordinary course to satisfy non-monetary purposes to anything but a minor extent, the Bank's primary task, viz., to maintain the external value of the currency, will be jeopardised. To avoid having its gold reserves depleted in these circumstances, and to replenish them when a drain occurs, the Bank has at its command but one weapon, that is credit control. It would have to follow a more or less permanent policy of so restricting the monetary circulation by a contraction of credit as to cause the rupee to appreciate beyond the upper gold point of the exchange. That is the only way in which gold can be attracted from abroad to make good the loss of reserves due to an internal drain. It is obvious that such a state of things would have highly injurious reactions on the internal economy of India, and should consequently be avoided."

* Evidence, Vol. V., p. 162, Q. 13,210

as also under the gold bullion standard, the currency authority buys and sells gold at fixed prices; under the gold exchange standard, token money is linked to a foreign gold currency, and its value is maintained by the buying and selling of that currency at fixed rates in terms of the internal currency. When these monetary systems are working satisfactorily, stability of the foreign exchanges is guaranteed.

Do they guarantee a stable level of prices?

In India exchange was fairly maintained within the gold points of the rupee between 1900 and 1914, but a considerable rise in prices occurred during this period. And what is remarkable, prices rose more rapidly in India than even in heavily protectionist countries like Germany and the United States. Before the Great War we levied a five per cent *ad valorem* duty on imports for revenue purposes, or India was a free trade country.

A stable level of prices is more desirable than a stable rate of exchange. If a country cannot have both a stable exchange and stable prices, it may adopt measures to keep prices stable, leaving exchange to take care of itself.

How are stable prices to be secured?

Irving Fisher has discussed the question in *Stabilizing the Dollar*.

One must agree with him that a unit of currency is wanted primarily as a standard of value, not as a standard of weight. One must also agree with him that a standard should be invariable: "Imagine the modern American business man tolerating a yard defined as the girth of the President of the United States."⁵ No, a yard so defined could not be tolerated—the standard of length would change with the President, and the same President may enlarge his girth during his administration.

But how is the gold standard to be rectified? Fisher would keep the purchasing power of the dollar stable by varying its weight.⁶

⁵ P. 83.

⁶ "I do not think that any sane man, whether or not he accepts the theory of money which I accept, will deny that the weight of gold in a dollar has a great deal to do with its purchasing power. More gold will

Since constant recoinage is impossible, to put Fisher's scheme into practice it would be necessary to replace metallic money by paper, and to make this paper convertible into a variable quantity of gold. Changes in the purchasing power of money would be determined by means of a reliable index number of prices. The weight of the currency unit would be adjusted periodically according to the rise or fall in the general index number of prices—or more or less gold will be given for the paper rupee. Why should a rupee be always equal to 8·475 grains of gold? When prices are rising, more gold will be given for a rupee, so that its purchasing power would increase. When prices fall, the rupee would be made lighter, so that its purchasing power will decrease. It is argued that the purchasing power of money may be thus kept stable by readjusting the amount of gold in the standard coin—or by making paper money convertible into a variable amount of gold.

The same object may be achieved under the gold bullion standard by varying the price at which the currency authority buys and sells gold. These prices in England were £3-17-9 and £3-17-10½ per standard ounce. Suppose commodity prices are falling and it is desired to raise them. The Central bank may now offer to buy gold at a higher price than £3-17-9. The currency in the hands of the public will increase and prices will tend to rise. Suppose at another time prices are rising and it is desired to lower them. The currency authority may lower the price at which it sells gold, inducing the public to convert paper money into gold. The quantity of money in circulation will be reduced and prices will tend to fall.

The basic idea of such schemes is that price changes can be remedied by suitable alterations in the supply of money. But we have seen that price changes may originate in the

buy more goods. Therefore, more gold than 23·22 grains will, barring counteracting causes, buy more goods than 23·22 grains will buy. Therefore if the dollar, instead of being 23·22 grains, or about one-twentieth of an ounce of gold, were an ounce or a pound or a ton of gold, it would, other things equal, surely buy more than it does now, which is the same thing as saying that the price level would be lower than it is now." (*Stabilizing the Dollar*, p. 90).

goods side of the equation of exchange. Rise in food prices in a famine, and fall when there are bumper crops, are not monetary phenomena. When there is a famine, price rises by way of adjustment of supply to demand. The rise of price restricts demand. Similarly when supply, at a given price, is greater than demand, price falls to equate demand and supply. It is not possible to control prices except through the channels of supply and demand, or by regulating production and consumption.

7. THE FUTURE OF THE GOLD STANDARD

We have seen that the gold standard has three forms, (a) gold currency standard, (b) gold exchange standard, as it was working in India, and (c) gold bullion standard, as it was working in the United Kingdom between 1925 and 1931. Of these we may consider only the third, the gold bullion standard, as the gold standard of the future. The use of gold coins has been universally discarded, and the maintenance of the gold standard has now come to mean the convertibility of paper money into gold bullion, mainly for foreign payments.

The international gold standard would ensure stable rates of exchange. But its satisfactory working depends on certain conditions. The gold standard broke down in 1931 because these conditions were not fulfilled.

Suppose the greater part of the world's monetary gold is acquired by two or three countries, and these countries sterilise the gold, or do not allow it to raise their prices. They would keep this gold permanently, and the gold-losing countries would find that their gold reserves were no longer sufficient to maintain the convertibility of their note-issues.

The satisfactory working of the international gold standard presupposes free international movements of gold. We assume that a country which loses gold becomes a good market to buy in and a bad market to sell in on account of the fall of commodity prices, and a gold-importing country becomes a good market to sell in and a bad market to buy in on account of the rise of commodity prices. When, however, gold-importing countries bottle up the imported gold

and; further, keep out foreign goods by means of heavy tariffs, and restrictions in other forms, an essential condition for the satisfactory working of the international gold standard is lacking.

The international gold standard of years preceding the Great War was a symbol of *laissez faire*. *Laissez faire* is dead; everywhere a system of State regulation and control is growing up. The world market has largely disappeared. It has broken up into more or less self-sufficient politico-economic blocks (e.g., the British Empire). Autarkie and thoroughgoing State control of trade and the foreign exchanges disturb the rule of the gold standard.

Will the countries which possess the greater part of the world's monetary gold, agree to a more equal, or less unequal distribution of it among the nations of the world? If they do, and the old conditions of trade are restored, the gold standard may be re-established.

But if the present restrictions on the free movement of goods continue; if foreign trade is conducted more and more through barter agreements; if the movement of gold is not free; if the movement of gold, when it does take place, has very little effect on the prices of goods in the gold-importing and gold-exporting countries, then the gold standard cannot work.

Considering the conditions which prevail to-day, it would require a very bold man to predict the return of the world to the gold standard as it functioned in the years preceding the Great War.

Possibly Autarkie (economic self-sufficiency) has come to stay. In that case one may look forward, in the coming years, to even stricter State regulation of international trade. Since no single country can be completely autark, the tendency for countries to form blocks for purposes of trade is likely to receive emphasis. Within the countries which constitute a block trade will be more free than trade between two blocks.

When trade between two countries, or blocks of countries, is largely in the form of direct barter, the need for gold or foreign exchange is minimised. Such was the trend before the outbreak of the present war. A further

development of this trend is likely, with rates of foreign exchange and outflow and inflow of gold severely controlled by the State.

8. BIMETALLISM

Under bimetallism standard money is composed of gold and silver together. Free coinage of both metals is established at a fixed ratio of exchange, and coins of each metal are unlimited legal tender. Thus debts may be paid either in silver or in gold at the option of the debtor.

France adopted bimetallism in 1803 at the ratio of $15\frac{1}{2}$ ounces of silver for one ounce of gold. This ratio was fairly maintained for about 50 years.

When the mint ratio and the market ratio of silver to gold vary, one or the other metal would be over-valued. Suppose the mint ratio is $15\frac{1}{2} : 1$ and the market ratio $13 : 1$. The legal ratio over-values gold for in the market 13 ounces of silver are equal to one ounce of gold.

Since debts can be paid in either metal, debtors will now take gold to the mint, have it coined and pay their debts in gold at the rate of $15\frac{1}{2}$ ounces of silver to 1 ounce of gold.

For the same reason all prices will be paid in the relatively cheaper metal (gold). Coins of the relatively dearer metal (silver) will be melted down and sold at the market ratio of $13 : 1$.

If, later, the price of gold rose relatively to silver, gold would tend to disappear from circulation, and all prices and debts would be paid in silver.

Whenever the mint ratio and the market ratio vary, only one metal would be used for currency purposes, and this

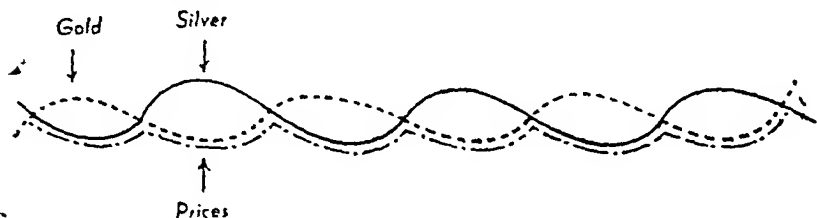


Fig. 64

would be the cheaper metal. Fig. 59 illustrates this

phenomenon.

When the gold discoveries of 1848-50 made gold relatively cheaper than silver, France was compelled to debase her silver in order to save it from the melting pot. In 1865 France, Belgium, Italy and Switzerland formed a monetary union by which the amount of silver to be coined yearly was fixed for each member as a measure of protection against the relative appreciation of silver to gold. A few years later Greece, Servia, Rumania and some of the South American States also joined the Union. This monetary union broke up in 1874 when the price of silver fell in terms of gold. The free coinage of silver was suspended and bimetallism came to an end.

Gold is money of higher monetary utility than silver, as it contains more value in smaller bulk. When the price of silver fell relatively to gold, gold would have disappeared from circulation in the countries of the Latin Union if bimetallism had not been abandoned.

If bimetallism were adopted by a number of leading countries, 'the compensatory action of the double standard' might keep the chosen ratio steady. Suppose silver becomes relatively cheaper. Then the increased demand for it in the bimetallic union would tend to raise its price, while the market price of gold would tend to fall as gold would no longer be used for currency purposes in the Union. The market ratio may thus not depart far from the mint ratio.

The closing of the Indian mints to the coinage of silver in 1893 depressed the price of silver, thus injuring American silver interests. In August 1897 the Government of India were asked by the Secretary of State for India whether they were in favour of reopening the Indian mints to silver if France and the United States opened their mints to silver as well as gold. The Government of India saw no very good reasons for adopting the course suggested.

International bimetallism could not succeed without the co-operation of the United Kingdom, and the United Kingdom was not prepared to change her monetary standard. The Government of India declined to give the undertaking desired by France and the United States, and their mints remained closed to the free coinage of silver.

Bimetallism was much discussed as a means of increasing the supply of money, and thus raising prices, in the last quarter of the 19th century. When the two metals are used together as legal tender, the available supply of money is greater than when gold alone is used. World's interest in bimetallism, however, flagged with the growth of modern banking, for banks are able to add to the supply of money through the creation of credit. This is the subject which we now proceed to examine.

CHAPTER XXI

THEORY OF BANKING

The basis of modern banking is the same as the basis of insurance. A few words about the business of insurance will therefore not be out of place here.

1. THE BASIS OF LIFE ASSURANCE

Nobody knows when death may come. Premature and unexpected death of the bread-winner of a family may leave the family totally unprovided for. This danger is guarded against by a life-assurance policy.

The following statement shows the annual premiums payable to a particular Indian Insurance Company for a specified term for the assurance of Rs. 1,000 to be paid at death only :

Age nearer birthday	1 Payment Rs. As.	20 Payments Rs. As.	Mortality per cent All-India Males
18	396 12	29 8	1.16
25	441 10	33 3	1.53
30	479 5	36 8	1.93
35	523 8	40 13	2.41
40	573 9	46 9	2.94
45	625 15	54 1	3.49
50	680 11	63 9	4.10

It is seen that the rates of insurance increase with age. The figures of mortality per cent given in the last column explain why.

According to the Life-table given in the Census Report for 1931,¹ of 100,000 individuals born living in India (males) 52,439 are left at the age of 18, and 51,832 at the age of 19. Out of 52,439 individuals aged 18, 607 die; mortality per cent is thus 1.16. At age 50, 24,348 individuals are left, and this total is reduced to 23,350 at age 51; the rate of mortality at age 50 is thus 4.1 per cent.

Let us suppose that there are 24,348 men, aged 50 in India. It is probable that 998 out of them will die in the course of the next year, but which 998? That no one can tell.

Suppose each of these 24,348 individuals aged 50 wants to leave his family Rs. 1,000 at death. Since any one of them may die at any time during the course of the year, each one of them is compelled to hoard Rs. 1,000. A sum of Rs. 24,348,000 is thus kept idle.

By means of insurance, however, each one of them, by paying a premium of Rs. 63-9-0, can provide his family with Rs. 1,000 in the event of death.

But is not the insurance company undertaking a grave risk? If all the 24,348 individuals who have insured themselves with it by paying the first annual premium of Rs. 63-9-0, died before reaching their next birthday, will not the company be ruined? The insurance company knows that normally this will not happen. It has to provide against a much smaller risk. It has to provide for the payment of the assured sum to about 1,000 families only, while it will receive premiums from all the 24,348. At age 51, 23,350 individuals will be paying the annual premium, while provision will have to be made for the deaths of 988, or 4.23 per cent., and so on.

In human affairs there is an aggregate uniformity in the midst of individual uncertainties. This is true of births, deaths, suicides, marriages and almost everything else. When a householder is expecting an addition to his family, it may be a boy or a girl. But on an average 105-107 boys are born to 100 girls.

¹ P. 173, Vol. I.

2. HOW A BANK IS ABLE TO PAY INTEREST TO DEPOSITORS

Before the rise of modern banking in India savings were generally hoarded. Suppose there are 100,000 families, each of whom wishes to provide for unforeseen expenditure by keeping Rs. 1,000 on hand, or instantly available. Each of them must hoard Rs. 1,000, and thus a sum of Rs. 10,00,00,000 is kept idle.

If this sum were handed over to a bank, the bank would undertake to pay cash to any depositor to the limit of his deposit, at any time he wanted it. Would the bank keep the whole of the sum deposited idle, in the expectation that the whole of it might be withdrawn at any time?

No. The whole of it would normally not be withdrawn. Experience tells a banker how much cash should be kept to meet the daily demands of depositors. A bank can lend a considerable proportion of its deposits.

Suppose a bank lends 50 per cent of the sum deposited with it. The loans are made, say, at the average rate of 10 per cent. After meeting its expenses, the bank can possibly pay 2 or 3 per cent to depositors as interest.

Banks are able to pay interest to depositors because they lend their deposits at a higher rate of interest to borrowers.

If, on any day, all the creditors of a bank suddenly made a demand for their deposits, the bank must fail. No bank can afford to keep 100 per cent of its deposits idle in order to meet the demands of its clients.

In a crisis panic seizes the public, and people rush to banks for their deposits. Even the safest and the best-managed bank must fail if all its depositors wanted their money back at the same time.

A run on one bank shakes public confidence and other banks also tend to lose cash.

Banks trade in credit. They must take all possible care to maintain their credit.

3. HOW LOANS MADE BY ONE BANK CREATE DEPOSITS OF OTHER BANKS

There are two chief functions of a bank—to receive deposits, and to lend money on the same deposits. Note-issue is not an essential banking function.

A deposit is created when money is left with a bank. You leave Rs. 1,000 with a bank, in your name. A deposit of the same amount is thereby created in your name.

But deposits are also created by loans.

You want to build a house, and for this purpose arrange for a loan of Rs. 10,000 from a bank.

When the bank makes the loan to you, it places this sum to your credit in your account with the bank. The bank's total deposits are swelled by Rs. 10,000. Let us call your bank A.

You will not spend Rs. 10,000 all at once, but draw cheques against the deposit in making payments for building materials, labour and other objects. Gradually the whole money lent to you will be spent. Your account with the bank will now be reduced by Rs. 10,000.

But deposits of other banks, B, C, D and E will be increased by very nearly the same amount. Why? Assuming that everyone has formed the banking habit, the cheques paid by you will be deposited by the persons receiving them with their own banks. In the beginning the loan of Rs. 10,000 made by Bank A increased its own deposits by an equal amount. In the end, deposits of other banks are swelled by the same amount, assuming that all payments are made by cheques which are deposited with the other banks.

4. THE LIMIT TO THE CREATION OF DEPOSITS

It may seem that a bank's power to create deposits, by the granting of loans, is unlimited. Bank A, for example, might swell its deposits, and ultimately the deposits of other banks, by one lakh by granting a loan of Rs. 1 lakh, or by a crore of rupees, or 10 or 100 crores by making loans of that amount. Similarly other banks may also create deposits by making loans on their own account.

The total deposits created in a country may thus reach astronomical figures.

This is not possible.

If a bank granted an excessive amount of loans, it will lose cash. In consequence the proportion of its cash balance to its liabilities may fall below the limit of safety, and the bank may have to close its doors. This fear acts as a check on every banker in granting loans.

Deposits circulate in the form of cheques. Cheques are credit money. They are to be distinguished from rupees and notes, which are cash.

The volume of credit money circulating in a country ultimately depends on the amount of cash. Credit money bears a certain proportion to cash, though this proportion is not fixed for all time.

Let us suppose that at any time the total amount of cash in the country is Rs. 600 crores, of which Rs. 200 crores is in the hands of bankers. On the basis of this sum, let us assume, the bankers have built up a credit circulation of 1,000 crores. The proportion of cash with the banks to credit is thus 20 per cent.

If now bankers, by making loans, swell deposits by 250 crores on the whole, there would be cash amounting to 200 crores with the banks against their liabilities on account of deposits amounting to 1,250 crores. The proportion of cash to deposits will fall from 20 per cent to 16 per cent.

What harm is done by a fall in the ratio of cash to deposits from 20 to 16 per cent? No harm is done provided the public is willing to use more credit money. But suppose the banks go further, and make more loans, which swell their deposits to 1,600 crores. Since the cash in their possession has not increased, the proportion of cash to deposits is now $\frac{1}{8}$ th, or $12\frac{1}{2}$ per cent. It is possible that the habits of the public in regard to the use of cash and credit in making payments may change, so that banks find a proportion of $12\frac{1}{2}$ % cash to deposit liabilities adequate. But banking habits of a people do not change suddenly, and of the additional cheques created, the public may want to convert 100 crores into cash. The banking system of the country would now be left with a cash of 100 crores against

deposits of 1,500 crores, a dangerously low proportion. Unless the currency authority created more cash, the attempt to swell deposits beyond the limit of safety would end in a crash.

What happens when an individual bank creates more deposits?

Let us assume that Bank A is a leading bank and that it keeps one-fourth of the total deposits of a community, say 250 crores. Against these deposits, Bank A holds cash amounting to Rs. 50 crores, or 20 per cent. Suppose it makes additional loans amounting to 40 crores. Of this sum, Rs. 10 crores will be redeposited with it, and the bank will eventually have to pay out 30 crores to the other banks. These figures may be taken as approximately correct on the assumption that when 40 crores is paid out in the form of cheques by the borrowers of A, three-fourths of the cheques will be deposited with the other banks and one-fourth redeposited with Bank A. Bank A must lose cash to the other banks, because it alone has increased its loans.

The payment of 30 crores in cash to the other banks will reduce the cash of Bank A to 20 crores, against deposits of 260 crores, or less than 8 per cent.

When all banks simultaneously increase their loans, they will not lose cash to one another, but the percentage of total cash to total deposits will fall and, as we have seen, it may fall below the margin of safety.

5. HOW A BANK MAY COIN ITS CREDIT

A bank trades in its credit when it lends a certain proportion of its deposits. You deposit a thousand rupee-note with a bank, and before your eyes the bank, without asking your leave, will lend the same note to somebody else. You do not protest because you know and trust that whenever you want your Rs. 1,000 back, the bank will readily pay the amount. Since all thousand rupee-notes are the same, the number of the note is a matter of indifference. Because of the confidence of depositors in the ability of a bank to return their deposits when demanded, the bank makes a profit by lending its deposits, or thus trades in its credit.

The bank may also coin its credit. It is said to do so when it issues paper money.

A bank, enjoying the confidence of the public, can easily put its paper, or signed promises to pay, into circulation.

When anyone goes to a bank for a loan, what he really wants is purchasing power. This purchasing power may be in the form of gold, or silver, or paper money. Provided a banker's signed 'promises to pay' will be accepted by the people with whom the borrower stands in business relations, there is no reason why the borrower should insist on the loan being made in metallic money.

In the early days goldsmiths in England performed the functions of a bank. They received deposits, and also made loans. A certificate of deposit granted by a private banker might be used for making payments. For example A has deposited Rs. 500 with a private banker, B. Having to pay C Rs. 500, A might simply hand over his certificate of deposit to C.

Paper money in the form of certificates of deposit probably came into circulation before bank notes.

If the private banker B was trusted by the public, he might make a loan, not in the form of gold or silver coins, but his own signed note, stating that he promised to pay the bearer on demand a specified sum of money. This note might pass from hand to hand in the settlement of debts. Any one distrusting the note, or needing cash, might present it to the banker, who would immediately pay cash for it.

Suppose a bank has put out notes of the value of a lakh of rupees. Against these notes it might keep a gold reserve of equal amount. The notes in this case are just certificates of deposit. There is no profit to the bank in issuing such notes, and no saving to the community, except the wear and tear of gold coins.

Next suppose that the bank finds by experience that 50 per cent. reserve in gold is sufficient to keep the notes in circulation, or the demand for encashment of notes is always less than Rs. 50,000. The bank may then lend Rs. 50,000. Of total notes of the value of 1 lakh, Rs. 50,000 will be called the fiduciary issue—half the note-issue rests on faith and the other half on a gold basis.

The habits of the people and the degree of their trust in the bank fix the amount of the fiduciary issue that the bank can put into circulation. The bank cannot force the people to use its notes when they prefer gold. When convertible notes, even when they are legal tender, are over-issued, the excess will return to the bank and gold withdrawn. Danger lies precisely in the fact of convertibility.

For example, let us suppose that people do not care to use more than 1 lakh worth of notes, and that not less than Rs. 50,000 must be kept in the form of gold in the reserve to maintain the convertibility of the notes. If now the bank issued additional notes of the value of Rs. 50,000, the whole of the excess will return to the bank, and gold withdrawn. The whole of the reserve will disappear, and the notes become inconvertible.

6. COMPETITIVE NOTE-ISSUES

At present note-issue in all countries is confined to one bank, the Central bank. The Reserve Bank of India is the sole note-issuing authority in India, and the Bank of England in England.

The virtual monopoly of note-issue was conferred on the Bank of England by the Bank Charter Act of 1844. Before that date any bank in England could issue notes. There was competition in issuing notes with the result that notes tended to be over-issued, which caused them to depreciate.

A great controversy between two schools of thought preceded the Bank Act of 1844. The advocates of the 'banking principle' argued that so long as notes were convertible, they could not be over-issued. To this the advocates of the 'currency-principle' replied that free trade in banking was free trade in swindling, and that it was precisely because notes were convertible that over-issue led to inconvertibility. Over-issue was possible because of competition among banks. For the sake of profits any bank or banks might be led to over-issue notes. The excess issues, when returned, had to be paid for in gold, and then there was sometimes no gold left for the conversion of notes still outstanding.

The 'currency' school won the day, and the Bank Act, while granting the virtual monopoly of note-issue to the Bank of England, stringently limited the issue of notes. The Act has been described as a 'strait waist-coat.'²

The note-issues of the note-issuing banks were limited to the amounts at which they stood in 1844. No bank established after 1844 was to be permitted to issue notes. If two or more banks amalgamated they lost their note-issues partly or completely. When a bank ceased to issue notes, or voluntarily surrendered its note-issue, a proportion of the note-issue was added to the 'fiduciary issue' of the Bank of England.

The 'fiduciary circulation' of the Bank of England was originally fixed at £14 millions; all notes issued over and above this amount were to be issued £ for £ against gold.

The Issue Department of the Bank of England was separated from the Banking Department; the two departments, to all intents and purposes, became two independent institutions. Notes were a liability of the Issue Department, and an asset of the Banking Department.

It is important to note the provisions of the Bank Act, for the same principles guided the policy of the Government of India in regulating their note-issue.

The Paper Currency Act of 1861 fixed 4 crores as the limit of the fiduciary issue; all notes issued over and above this amount were required to be backed by silver or gold coin or bullion. Gradually the fiduciary issue was raised to 14 crores, at which figure it stood at the outbreak of the Great War.

The framers of the Bank Act wished to prevent any possibility of over-issue of notes, and in this object they were entirely successful. But English trade and industry was developing rapidly in the latter half of the 19th century, and more and more money was required by the commercial community. "If the apparent intentions of the Act of 1844 had been carried out," says Hartley Withers in his classic *Meaning of Money*, "the subsequent enormous development of English trade, if it had been possible at all, must have

² *History of the Bank of England*, by A. Andreadès, p. 292.

been accompanied by the heaping up of a vast mass of gold in the Bank's vaults."³ The commercial community evaded the intentions of the Bank Act by developing the use of cheques.

There is a difference between a cheque and a bank note. A bank note is intended to circulate, or to pass from hand to hand. A cheque is meant to effect a single payment, though, by endorsement, the same cheque may be used to make more than one payment. The advantage of a cheque circulation is that its amount is not restricted by law, but by the good sense of bankers and their clients.

7. RESERVE BANK NOTES

Like the Bank of England, the Reserve Bank is also divided into two Departments, and its Issue Department is wholly distinct from the Banking Department. The rules governing the composition of the reserve against notes are reproduced below:—

"33. (1) The assets of the Issue Department shall consist of gold coin, gold bullion, securities of sterling standard countries, rupee coin and rupee securities to such aggregate amount as is not less than the total of the liabilities of the Department as hereinafter defined.

(2) Of the total amount of the assets, not less than two-fifths shall consist of gold coin, gold bullion or sterling securities:

Provided that the amount of gold coin and gold bullion shall not at any time be less than forty crores of rupees in value.

(3) The remainder of the assets shall be held in rupee coin, Government of India rupee securities of any maturity and such bills of exchange and promissory notes drawn and payable in British India or in Burma as are eligible for purchase by the Bank under sub-clause (a) or sub-clause (b) of clause (2) of section 17 or under section 18:

Provided that the amount held in Government of India rupees securities shall not at any time exceed one-fourth of the total amount of the assets or fifty crores of rupees, whichever amount is greater, or, with the previous sanction of the Central Government such amount plus a sum of ten crores of rupees.

(4) For the purposes of this section, gold coin and bullion shall be valued at 8·47512 grains of fine gold per rupee, rupee coin shall be valued at its face value, and securities shall be valued at the market rate for the time being obtaining.

³Pp. 30-31.

(5) Of the gold coin and gold bullion held as assets, not less than seventeen-twentieths shall be held in British India, and all gold coin and gold bullion held as assets shall be held in the custody of the Bank or its agencies :

" Provided that gold belonging to the Bank which is in any other bank or in any mint or treasury or in transit may be reckoned as part of the assets."

Against the notes of the Reserve Bank, there is thus a 40 per cent. gold reserve in the form of gold coin, gold bullion or sterling securities. There is now no maximum fixed for the fiduciary issue ; fiduciary circulation may be increased to any limit, provided a 40 per cent. gold reserve is maintained.

This reserve requirement may be suspended when need arises, and the gold reserve allowed to fall below the prescribed minimum, on the payment of a tax to Government, the rate of the tax rising progressively with the fall in the gold holding below specified percentages.

8. THE CLEARING HOUSE

In Lahore the Reserve Bank acts as a clearing house for cheques. A clearing house is a place where representatives of banks meet and present cheques on one another. Suppose during the course of a day's transactions Bank A receives cheques drawn on bank B of the value of $1\frac{1}{2}$ lakhs, and Bank B receives cheques drawn on Bank A worth 2 lakhs. It is unnecessary for the two banks to pay cash to each other. A owes B half a lakh, which it may pay by means of a cheque on the Central bank. Mutual indebtedness of banks to each other is cancelled in the clearing-house, and only balances are settled through book entries in the accounts of each bank with the Central bank.

The use of cheques effects a great economy in the use of cash. Wherever cheques are largely used, as in the bigger towns, a clearing-house for cheques is essential.

9. THE VALUE OF BANKS

The commercial banks render invaluable services to trade. They mobilise resources which would have otherwise remained idle. Of what use is a hoard to the country?

Transfer this hoard to a bank, and it will quicken the wheels of commerce. Commercial banks, however, cannot lend money for long periods. They receive deposits for short periods, and the attempt to finance long-term industry with short-term deposits ends in disaster, as we have learnt by sad and painful experience.

Industrial banks do not exist in India, and the banking facilities provided by the commercial banks are inadequate. On the 30th of June 1940, the total number of offices of scheduled banks in India and Burma, including head-offices, branches etc., was 1,322. In addition, there were on the 30th of December, 1939, 669 non scheduled banks. These are small banks with capital and reserves of less than 5 lakhs. On the same date the total demand and time liabilities of the non-scheduled banks amounted to about 16 crores, against which they held a cash reserve of 110 lakhs, or 6·9 per cent.

Comparison with England.—We have 59 scheduled and 669 non-scheduled banks, or a total of 728 banks. These banks have about 1,200 or 1,300 branches, and their total deposits amount to about Rs. 300 crores. A comparison of these figures with those for England and Wales is instructive.

The following statement relates to joint-stock banks in England and Wales (excluding Bank of England).

Year	Banks	No. of branches	Deposits £ (000 omitted)	Acceptances £ (000 omitted)
1890	104	2,203	368,663	22,693
1915	26	6,027	992,555	62,512
1938	15	10,151	2,268,767	132,659

As compared with our 59 scheduled banks England and Wales had, in 1938, only 15 banks, but these 15 banks had over ten thousand branches, and total deposits (£=13½ rupees) of over Rs. 3,000 crores, or ten times greater than our deposits.

Incidentally we notice the sixfold increase in the acceptance business undertaken by the English joint-stock banks between 1890 and 1938.

The same information is given separately for the 'Big Five' for December 31, 1938:—

Bank	Branches	Deposits £(000 omitted)	Acceptances £(000 omitted)
Barclays Bank ...	2,131	433,081	14,993
Lloyd's Bank ...	1,912	397,667	40,542
Midland Bank ...	2,137	462,742	17,218
National Provincial ...	1,324	310,383	7,952
Westminster Bank ...	1,098	346,221	24,176
Total ...	8,602	1,950,094	104,881

The figures for the 'Big Five' show the extent to which they dominate the English money-market. Of the total number of branches in the country, the 'Big Five' maintain 85 per cent; of the total deposits about 86 per cent are with the 'Big Five.'

In addition to the 15 joint-stock banks in England and Wales, there were in 1938 in England 3 private banks (38 in 1895) with deposits of less than £9 millions. In the same year there were 8 Scottish joint-stock banks which maintained 1902 branches, and had deposits amounting to over £325 millions.

The deposits of the smallest of the 'Big Five' exceed the total deposits of all the Indian scheduled and non-scheduled banks combined.

10. BRANCH BANKING

Branch banking is a peculiar feature of the English banking system. Amalgamation has reduced the number of English banks but it has given England safer and stronger banks, capable of resisting heavy shocks.

As compared with 15 English banks, the United States had 15,752 banks in 1936. America prefers independent local banks.

An independent local bank can, perhaps, better serve a district to which it belongs than the local branch of a big

bank whose head-office is situated elsewhere. The branch would be managed by local men, but the head-office would have to be consulted in important matters. That means delay and inconvenience.

A big bank, however, inspires greater confidence and also has command over greater resources.

11. SCHEDULED BANKS

The Reserve Bank of India is India's Central bank. A Central bank is unlike other banks. It is a bankers' bank and keeps the whole country's reserves.

Banks called 'Scheduled banks' stand in a special relation to the Reserve Bank. These banks are so called because they were included in a schedule attached to the Reserve Bank Act. Their original number was 50, but it had increased to 59 by the 30th June, 1940.

Every scheduled bank is required by law to maintain with the Reserve Bank a balance the amount of which shall not be at the close of business on any day less than 5 per cent of the demand liabilities and 2 per cent of the time liabilities of such bank in India.

'Demand liabilities' mean deposits which may be withdrawn on demand, and time liabilities, deposits which are fixed for a period.

The following statement shows the scheduled banks' consolidated position.

Scheduled Banks' Consolidated Position (In lakhs of rupees)

Average of Friday Figures	Demand Liabilities in India and Burma		Time Liabilities in India and Burma		Cash in India and Burma		Balances with Reserve Bank		Cash and Balances with Reserve Bank as percentage of demand and Time Liabilities		Advances in India and Burma		Bills Discounted in India and Burma		Advances and Discount as percentage of Demand and Time Liabilities	
	1940-41	...	1,47,58 (7,68)	1,11,93 (3,71)	7,08 (25)	18,65	9,91	1,53,40 (5,71)	6,73 (30)	61,70						
April	1,47,64 (7,48)	1,13,23 (3,76)	7,04 (26)	17,67	9,47	1,53,08 (5,02)	6,61 (26)	61,21						
May	1,44,22 (7,31)	1,09,76 (3,74)	8,80 (36)	20,94	11,71	1,44,32 (4,73)	5,42 (17)	58,96						
June	1,50,65 (7,28)	1,06,60 (3,70)	8,38 (43)	28,46	14,32	1,33,90 (4,39)	3,76 (12)	53,51						
July	1,57,82 (7,59)	1,03,96 (3,59)	8,05 (43)	34,64	16,31	1,23,39 (4,16)	2,28 (8)	48,01						
August	1,63,65 (7,65)	1,01,37 (3,58)	8,19 (40)	43,32	19,44	1,14,27 (3,87)	1,69 (10)	43,76						
September	1,69,98 (8,16)	1,00,56 (3,75)	8,94 (49)	47,52	20,87	1,07,08 (3,53)	1,60 (9)	40,18						
October														

November ...	1,73,82 (8,47)	1,00,54 (3,73)	8,74 (45)	49,32	21.16	1,00,25 (3,28)	1,91 (10)	37.23
December ...	1,75,57 (8,73)	1,00,83 (3,73)	9,10 (47)	48,17	20.72	99,92 (3,26)	2,19 (11)	36.95
January ...	1,781,9 (8,96)	1,01,35 (3,93)	9,02 (48)	44,73	19.06	1,04,92 (4,17)	3,12 (16)	36.04
February ...	1,77,70 (8,98)	1,04,20 (3,87)	8,60 (50)	45,06	19.04	1,12,69 (5,16)	4,96 (16)	41.73
Week-ended February 7 ...	1,77,26 (9,02)	1,02,73 (3,94)	8,43 (46)	46,22	19.52	1,10,38 (4,73)	4,19 (15)	40.92
" 14 ...	1,77,83 (8,86)	1,04,10 (3,95)	8,85 (50)	43,94	18.72	1,12,21 (4,89)	4,62 (16)	41.44
" 21 ...	1,78,33 (9,13)	1,04,92 (3,80)	8,53 (49)	45,69	19.14	1,13,46 (5,43)	5,16 (17)	41.88
" 28 ...	1,77,39 (8,93)	1,05,05 (3,79)	8,57 (55)	44,40	18.75	1,14,72 (5,58)	5,88 (17)	42.70

NOTE:—Burma figures shown in brackets.

We learn from the table that on Friday during the week ended February 28, 1941, the cash with the scheduled banks (their 'till' money) together with their balances with the Reserve Bank was 18·75 per cent of their demand and time liabilities in India and Burma, and that for the same date the advances and discounts made by them amounted to about 43 per cent of their demand and time liabilities. In April 1940 their cash and balances with the Reserve Bank were less than 10 per cent and their advances and discounts about 62 per cent of their total deposits.

It will also be seen that the assistance provided by banks to trade is not chiefly through the discounting of bills. As compared with advances, bills discounted are insignificant in amount (about 6 crores in the week ended February 28, 1941 as compared with advances of about 115 crores). A bank may make an advance to a client in the form of an overdraft, cash credit, loan on personal security, or loan against 'collateral.' 'Collateral' is property pledged as guarantee for repayment of money. Most often money is borrowed from banks in India against Government securities, or Government securities are handed over to a bank as guarantee for the repayment of the loan. The amount lent is generally less than the market value of the securities. When the price of securities falls, the bank may call upon the borrower to increase the amount of his 'collateral.'

A loan may be taken on the security of ornaments or house-property, industrial plant, buildings, raw materials or semi-finished goods. A banker, who knows his business, will prefer readily realisable assets as security to such assets as a house. A bill of exchange is self-liquidating. When it matures, it will be paid, and a banker can so arrange his purchases of bills that some bills mature, or become payable, daily. A house, or land or machines and factory buildings are far less liquid. It is part of the first duties of a banker to learn to distinguish between a mortgage and a bill.

The bill market in India is very little developed. The predominant form of lending by banks is the grant of cash credits. A cash credit of a lakh granted to an individual by a bank gives the right to that individual to draw cheques

on the bank up to a lakh of rupees. Where no security is demanded, the cash credit is granted on 'personal' security. But most often, as we have said above, loans are granted against Government securities.

An overdraft is granted when a client is permitted to overdraw his account by a specified amount.

12. THE RESERVE BANK RETURN

The return of the Reserve Bank for the week-ended 28th March, 1941, is reproduced on pages 432 and 433.

RESERVE BANK OF INDIA

An Account pursuant to the Reserve Bank of India Act, 1934, for the week ended the 28th day of March, 1941

Issue Department

(000 omitted)

LIABILITIES		ASSETS		
	Rs.		Rs.	Rs.
Notes held in the Banking Dept. ...	11,58,92	A. Gold Coin and Bullion :—		
Notes in circulation :—		(a) Held in India	44,41,43	
(a) Legal Tender in India	2,40,55,32	(b) Held outside India	...	
(b) Legal Tender in Burma only	17,10,62	Sterling Securities	1,02,24,21	
Total Notes issued		Total of A.		1,46,65,64
		B. Rupee Coin		34,71,44
		Government of India Rupee Securities		87,87,78
		Internal Bills of Exchange and other Commercial Paper ...		...
Total Liabilities	...			2,69,24,86

Ratio of Total of A to Liabilities : 54.169 per cent.
Dated the 2nd day of April 1941.

J. B. TAYLOR,
Governor.

*Statement of the affairs of the Reserve Bank of India, Banking Department as on the
28th March, 1941*
(000 omitted)

LIABILITIES		ASSETS	
	Rs.	Notes:—	Rs.
Capital paid-up	...	(a) Legal Tender in India	11,25,29
Reserve Fund	...	(b) Legal Tender in Burma only	33,63
Deposits:—	...		
(a) Government	...	Rupee Coin	7,76
(1) Central Government of India	...	Subsidiary Coin	3,85
(2) Government of Burma	...	Bills Purchased and Discounted:	
(3) Other Government Accounts	...	(a) Internal	...
(b) Banks	...	(b) External	...
(c) Others	...	(c) Government Treasury Bills	2,99
Bills Payable	...	Balances held abroad ¹	42,25,28
Other Liabilities	...	Loans and Advances of Government	16,00,00
		Other Loans and Advances	6,26
		Investments	7,17,21
		Other Assets	1,33,51
	Rupees	Rupees	78,55,78

¹Includes Cash and Short-term Securities.

Dated the 2nd day of April 1941.

J. B. TAYLOR,
Governor.

Issue Department.—Since the Issue Department is quite distinct from the Banking Department of the Reserve Bank, the returns of the two Departments are issued separately. We shall first deal with the return of the Issue Department.

In a balance-sheet liabilities are always shown on the left side, and assets on the right side. Liabilities are debts or obligations, and assets are the resources for meeting the debts or obligations.

All notes issued by the Issue Department are an obligation of the Issue Department, including the notes held in the Banking Department of the Reserve Bank. The total note-issue amounted to over 269 crores (about 207 crores in April, 1939) of which a little over 240½ crores were in circulation in India.

All the gold coin and bullion held against the notes is now kept in India. Sterling securities in the Issue Department amounted to over Rs. 102 crores in the last week of March 1941, as compared with Rs. 59½ crores in April, 1939. During this period the total of rupee coin and Government of India securities increased by Rs. 19½ crores. (In April, 1939, the amount of rupee coin in the Issue Department was Rs. 68.25 lakhs, and rupee securities 34.80 lakhs, or a total of Rs. 1,03.05 lakhs).

At the sixth annual general meeting of shareholders of the Reserve Bank, the increase in the figure of sterling securities held as cover for currency notes, as compared with the stationary amount of the gold coin and bullion, formed the subject of comment. The Reserve Bank had been buying gold in India and exporting it on behalf of other Central banks. The question was asked whether the operations of the Reserve Bank in increasing sterling securities as cover for the note-issue in preference to gold were to India's advantage. To this question the following reply was given by the Chairman (Sir James B. Taylor, Governor of the Bank).

"The Reserve Bank purchased gold for other Central banks who obtained the gold not for hoarding purposes but for purchasing dollars for the prosecution of the war; similarly gold had been exported for the same purpose, in the advantage of which India obviously shared."

Sterling securities held by the Issue Department are entirely in the form of British Treasury Bills and short-dated securities maturing within five years.

The amount of gold coin and bullion held in the Issue Department has not varied since the foundation of the Reserve Bank.

The Return of the Banking Department.—This return is also divided into two parts, the Liabilities side showing what the Banking Department owes to others, and the Assets side, the resources of the Banking Department for meeting the liabilities.

The amounts of Capital and Reserve Fund are fixed at Rs. 5 crores each.

The shareholders of the Reserve Bank receive a dividend at a fixed cumulative rate of $1\frac{3}{4}$ per cent.; any surplus remaining after the payment of the dividend goes to the Central Government. The total number of shares of the Reserve Bank is 500,000, each of Rs. 100. Distribution of shares between the various areas is shown below :—

		Distribution of shares on the 31st December, 1939.	Distribution of shares on the 30th June, 1940.
Bombay	...	207,367	210,515
Calcutta	...	121,335	119,671
Delhi	...	92,764	91,063
Madras	...	60,109	60,249
Rangoon	...	18,425	18,502

		Number of share-holders on the 31st December, 1939.	Number of share-holders on the 30th June, 1940.
Bombay	...	19,945	19,815
Calcutta	...	13,187	12,849
Delhi	...	14,193	13,719
Madras	...	8,377	8,237
Rangoon	...	1,490	1,437
Total	...	57,192	56,057

	31st December, 1939.	30th June, 1940.
Average number of shares held by each shareholder ...	8.7	8.9 ✖

The Bombay register of shareholders during this period gained 3,000 shares at the expense of the Calcutta and the Delhi registers.

The Reserve Bank Act was amended in March 1940 so as to restrict the tendency of the Bank's shares to become concentrated in fewer hands. Under this amendment no person can be registered as a shareholder in respect of any additional shares acquired after the 26th March, 1940, by him whether in his own name or jointly with another person or persons, so as to bring the total to more than Rs. 20,000. Further, no shareholder is entitled to any dividend on any such additional shares held by him, nor can he exercise any rights in respect of such shares except for the purpose of selling them. This amendment should check the tendency of the shareholders to own large blocks of shares. During the period to which the figures relate the number of shareholders declined from 57,192 to 56,057, and the average number of shares held by each shareholder increased slightly.

Liabilities.—Capital is shown under 'Liabilities,' because it is a contribution of shareholders, or is the Reserve Bank's obligation or debt to shareholders. The Reserve Fund is built out of profits, which also belong to the shareholders of the Bank, and are, therefore, a liability of the Bank.

Deposits of a bank are a liability to depositors. Deposits are shown under three heads, (a) Government, (b) Banks, which mean the scheduled banks and the provincial co-operative banks, and (c) others. 'Others' means 'sundries' or 'miscellaneous'; sums which the Reserve Bank owes to others, but which have not yet been paid, are shown under this head, e.g., undisbursed salaries of the staff, or any other unadjusted amount, e.g., a remittance from the Imperial Bank of India.

The Reserve Bank keeps the balances of the (1) Govern-

ment of India, (2) Government of Burma, and (3) Provincial Governments.

"Bills payable" includes four accounts: bank drafts payable account, Government drafts payable account, T. T's and drafts issued on Imperial Bank account, and Payment Orders account. When the Reserve Bank has received a 'payment order' from the Government, to pay a specified sum to a member of the public, this is a 'bill payable,' and a liability. Bank drafts, Government drafts, and T.T's and drafts issued on behalf of the Imperial Bank, also a liability because they are to be paid by the Reserve Bank.

'Other Liabilities' comprise six accounts—discount, interest, exchange, commission, adjusting, and profit and loss. When the Bank is in credit under these heads, the sum earned is a liability to shareholders, and must be shown on the liabilities side.

Assets.—Among the 'assets' we first notice notes, which are a liability of the Issue Department, and an asset of the Banking Department. 'Rupee and subsidiary coin' explains itself. The bills purchased and discounted by the Reserve Bank become the property of the Bank and therefore its assets. 'Other loans and advances' means loans and advances to scheduled banks and provincial co-operative banks. The head 'Investments' shows the amounts invested by the Reserve Bank in the securities of the Government of India other than Treasury Bills.

'Other assets' comprise sums due to the Reserve Bank in the accounts mentioned under 'other liabilities' above, and such minor heads as 'dead stock' e.g. furniture and stationery.

A little more than half of the assets of the Banking Department consisted in balances held abroad in the form of cash and short-term securities.

13. EFFECTS OF THE WAR ON THE INDIAN MONEY MARKET

Commodity Prices.—Commodity prices at first rose. The rise was partly due to the activities of speculators, and partly to the increase in exports. The value of exports rose

from about Rs. 163 crores in 1938-39 to more than Rs. 203 crores in 1939-40. But the unfavourable war situation in Europe and the occupation of a great part of Europe by Germany in June, 1940, closed many markets for Indian produce, and commodity prices fell. The fall was particularly heavy in the case of raw jute, raw cotton, oil-seeds and hides and skins. Prices gradually rose after June, 1940. The Calcutta index number rose from 100 in August 1939 to 130 in January 1940, fell to 114 in June 1940, and stood at 119 in February 1941.

Exchange.—Exchange control was instituted through the Reserve Bank soon after the outbreak of war. All dealings in foreign exchange were required to be transacted through authorised dealers and the Exchange Banks, and certain Indian joint-stock banks were licensed as such. The purchase and sale of non-Empire currencies was restricted to genuine trade purposes, travelling expenses and small personal remittances. Excepting Canadian, Newfoundland and Hong Kong dollars, no restrictions were at first imposed on the buying and selling of Empire currencies. The policy of the Exchange Control Department was to ensure that all foreign exchange transactions in India were done on the basis of the rates quoted by the London Exchange Control, combined with the current rupee rate for sterling. Imports and exports of gold were permitted only on the authority of a license granted by the Reserve Bank. Licences for import were generally given; licences for export were granted on the condition that the gold was consigned to the Bank of England, or if consigned to America, the dollar proceeds were sold to the Federal Reserve Banks⁵ on behalf of the Bank of England.

At the beginning of the war goods could be freely imported, but in May 1940 Government introduced a system of licensing imports for the purpose of conserving foreign exchange, and at the same time the Exchange Control Department issued regulations forbidding the remittance

⁵ The Federal Reserve Banks are twelve in number, located in twelve districts of the United States. But their policy is controlled by a single body called the Federal Reserve Board.

of any amounts overseas in payment of imports unless the importer in India was in possession of an import licence.

With the occupation of a great part of Europe by Germany the market in European currencies disappeared, and the only currencies sold in India are at present the United States' dollar and the Japanese yen besides sterling.

The unfavourable war situation in May and June, 1940, led to wide fluctuations in the free market for sterling in New York. As sterling fell in terms of the dollar the price of gold rose in India. Gold 'ready' (spot) was quoted at Rs. 48-8-0 per tola on 25th May. Later the price fell with the improvement of sterling.

Money-Market.—The inter-bank 'call' rate, at which banks lend money to each other, was about $\frac{1}{4}$ to $\frac{1}{2}$ per cent at the end of August 1939. After the outbreak of the war money-rates tended to stiffen, and in the second week of September the inter-bank call rate rose to $1\frac{1}{4}$ per cent. There were some withdrawals of deposits, but the lack of confidence was temporary. Towards the end of 1939 there was a brisk demand for money on account of the rising commodity prices and increase in exports, and the call rate rose to $2\frac{1}{4}$ per cent. The currency needed by trade was freely supplied by the Reserve Bank. The note-issue was expanded against sterling securities, and the Reserve Bank made considerable purchases of Government of India Treasury bills, thus making money more plentiful.

Lack of confidence again manifested itself in May and June 1940. Between the 10th of May and the 28th of June the total demand and time liabilities of the scheduled banks fell by about $10\frac{1}{2}$ crores and there was an abnormal demand for the encashment of notes. On the 25th of June the Government of India issued a notification making the acquisition of whole rupees in excess of personal or business requirements punishable under the Defence of India Act.

Indian Securities Market.—The prices of gilt-edged securities in India (e.g., $3\frac{1}{2}$ per cent Government paper) were influenced by two factors—war developments in Europe and the trend of prices in the London securities market. The gilt-edged market had a rising tendency in the earlier period of the war, but with unfavourable war-news,

rupee paper fell heavily in June, 1940. On 26th June, 1940, the Board of the Bombay Stock Exchange fixed minimum prices for various Government securities with a view to preventing a further fall in values.

Industrial Share Market.—With rising prices at the outbreak of the war, the Industrial Share Market had a buoyant tone. The publication of the Excess Profits Tax Bill on the 27th January, however, led to a heavy fall in the prices of industrial shares, and in the third week of May unfavourable war developments broke the resistance of the market. The Calcutta Stock Exchange was closed, and when it reopened at the end of June, it was only for 'ready' business in gilt-edged and other fixed interest securities. The Bombay Stock Exchange was also closed temporarily.

14. THE LONDON MONEY MARKET

We may now learn a few facts about the clearing-house of the world, the London money-market.

Its constituent elements are the Bank of England, the joint-stock banks, bill-brokers and discount houses, and accepting houses.

The Bank of England.—The Bank of England is a shareholders' bank. It was founded in 1694. The Government of William III stood in need of money, and its credit was so low in London that it could not borrow a large sum. A plan was devised to raise £1,200,000 at 8 per cent. In order to induce the subscribers to advance the money promptly, they were to be incorporated by the name of the Governor and Company of the Bank of England. The requisite sum was readily obtained.

The prestige and power of the Bank of England grew from century to century, until Walter Bagehot was able to write in 1873 that it depended on the wisdom of the directors of this one joint-stock company 'whether *England shall be solvent or insolvent*.'⁶

The Bank of England is the custodian of the gold reserve of the United Kingdom. We have seen how a rise in the

⁶*Lombard Street*, p. 36.

Bank rate stops a foreign drain of gold. The account written by Bagehot 70 years ago will be read with interest.⁷

There is one important change since the time of Bagehot. Seventy years ago the market could not get along without the 'legal tender' provided by the Bank of England. When new money was needed, recourse was compulsorily had to the Bank of England, and the raising of the Bank rate was immediately effective. The Bank of England alone was in a position to 'pour in the new money.' When the bill-brokers got into difficulties, they went to the Bank of England. When the joint-stock banks wanted new money, the only resource was the Bank of England. Under such conditions raising of the Bank rate was automatically followed by a rise in the market rate of discount.

At present the joint-stock banks are the chief factory of credit money, and the development of the cheques has rendered the note-currency of comparatively little importance. To-day the Bank of England has to make its rate of discount effective by what are called 'open market operations.'

"The Bank of England must keep a reserve of 'legal tender' to be used for foreign payments if itself fit, and to be used in obtaining bullion if itself unfit. And foreign payments are sometimes very large, and often very sudden. The 'cotton drain,' as it is called—the drain to the East to pay for Indian cotton during the American Civil War—took many millions from this country for a series of years. A bad harvest must take millions in a single year. In order to find such great sums, the Bank of England requires the steady use of an effectual instrument.

"That instrument is the elevation of the rate of interest. If the interest of money be raised, it is proved by experience that money does come to Lombard Street, and theory shows that it ought to come. To fully explain the matter I must go deep into the theory of the exchanges, but the general notion is plain enough. Loanable capital, like every other commodity, comes where there is most to be made of it. Continental bankers and others instantly send great sums here, as soon as the rate of interest shows that it can be done profitably. While English credit is good, a rise of the value of money in Lombard Street immediately, by a banking operation, brings money to Lombard Street. The rise in the rate of discount acts immediately on the trade of this country. Prices fall here; in consequence imports are diminished, exports are increased, and, therefore, there is more likelihood of a balance in bullion coming to this country after the rise in the rate than there was before." (*Lombard Street*, by Walter Bagehot, pp. 47-48.)

The market rate would rise if bankers' deposits with the Bank of England were reduced. The reduction is effected by the Bank of England selling bills and securities in the open market. These bills and securities are paid for by cheques drawn on the joint-stock banks, which reduces the balances kept by the banks with the Bank of England. The market rate of discount then rises.

When the Bank of England buys bills and securities, it pays for them by cheques on itself. The bankers' deposits are swelled thereby and they can create more credit by lowering their rates of discount.

Joint-stock banks.—The joint-stock or the cheque-paying banks (1) create the currency used in the great majority of business transactions in England; (2) discount bills and make advances to bill-brokers; (3) settle the current rates for money in London ('money' means loans to bill-brokers and discount houses at very low rates for short periods not exceeding a week); (4) regulate, in normal times, the discount rate in London; (5) accept bills of exchange; and (6) make advances to customers or stock-brokers against Stock Exchange securities for dealings in stocks and shares.

Bill-brokers and discount-houses.—Bill-brokers and discount houses stand between the joint-stock banks and the Bank of England. When the joint-stock banks are in need of liquid funds, they recall their loans to bill-brokers and discount houses. These loans are 'at call' and short notice, and constitute their 'second line of defence' in times of trouble. Their 'first line of defence' is naturally cash in hand and at the Bank of England.

The original bill-broker was a bill-broker pure and simple. He helped in finding a buyer of bills for the seller of bills for a commission. This pure and simple bill-broker is called 'a running broker.' He is not of great importance now.

The retail dealer in bills does not work for a commission but buys the bills on his own account to sell them again at a profit. He borrows money from the joint-stock banks.

Discount houses have grown out of the retail dealer in bills. They work on a large scale, have command over large resources, and add to their funds not only by borrowing

from the joint-stock banks, but by attracting deposits. They buy bills and hold them till maturity.

Accepting Houses.—The business of acceptance is also undertaken by the joint-stock banks, but special firms have specialised in it, for which reason they are known as 'accepting houses.'

London draws few bills but accepts many. London accepts bills not only on its own account but for foreign countries as well. Why?

Suppose we export jute to a South American Republic. We may draw a bill on the importing firm, but who knows this importing firm? A bill accepted by this firm could not be readily discounted. If now a London accepting house accepted the bill on behalf of this South American firm, the bill would become marketable.

London accepting houses earn a fortune annually by accepting bills on behalf of other countries. Their services are in demand because of their high credit.

Accepting houses have grown out of merchant-firms. Suppose there are two merchants A and B, both engaged in foreign trade. B finds that bills accepted by him cannot be readily sold. A enjoys a wider reputation, and therefore B approaches A, and says "Will you accept this bill drawn on me?" A might be willing to do so, for a consideration. Before the bill matures, A must be placed in funds by B.

Finding that he can earn an income on the strength of his reputation for reliability, A may give up his exporting or importing business and specialise in acceptance. A merchant has grown into an accepting house.

The bill market is more highly developed in England than in any other country. The position of bill-brokers and discount houses between the Bank of England and the joint-stock banks is also a peculiar feature of the London money-market.

At one time it was thought at the end of the Great War that New York might replace London as the centre of world finance. But British banks possess more experience and inspire greater confidence. The supremacy of London as the world's clearing-house remained undisputed.

15. BRITISH MONETARY POLICY, 1844—1939

As we have seen, the Bank Act of 1844 established the principle of a fixed fiduciary issue. This principle meant that notes over and above the fixed fiduciary amount were to be issued against the deposit of gold in the reserve £ for £.

The idea behind a fixed fiduciary issue is that if gold is exported or imported, the resulting contraction or expansion of the currency must be of equal amount, whether the currency consists of gold or notes. Suppose gold worth £10 millions is imported. Then, under the principle of the fixed fiduciary issue, the currency can be increased only by £10 millions. It is a matter of indifference whether the addition to circulation is made in the form of coins, or notes against a backing of £10 millions in the reserve.

If gold worth £10 millions is exported, the note-issue will have to be correspondingly reduced. The place of gold exported cannot be taken by fiduciary currency.

On September 8, 1844, Bank of England's note-issue amounted to £28·4 millions, of which the fiduciary issue was £15·7 millions, and the Bank of England held £12·7 millions in gold against the notes. By July 15, 1914, the Bank of England's note circulation had increased to £56·9 millions, and the fixed fiduciary issue to £18·4 millions. The Bank of England duly held £38·5 millions in gold against the notes.

On previous occasions when it became necessary to enlarge the note-issue in a crisis, the Bank Act had to be suspended. When the Great War came the principle of a fixed fiduciary issue had again to be abandoned. The Bank Act, however, was not suspended. The British Government, for the first time, issued notes, called 'Currency Notes.' On April 14, 1920, the total paper circulation amounted to about £464 millions, of which 'Currency Notes' issued by the Government represented £340 millions.

The gold standard was formally suspended in England only in 1919. The £ sterling depreciated heavily in terms of the dollar (3·20 dollars to the £ as compared with the parity of 4·86 dollars to the £). The situation in regard to the note-issue had been examined by the Cunliffe Currency

Committee (1918), which had recommended the restoration of the former gold standard with the fixation of the fiduciary issue at a level to be arrived at by experiment.

The policy of reducing the volume of Currency Notes was steadily pursued.

The gold standard was restored in 1925, but the sovereign, as we have already learnt, was demonetised. In 1928 the two note-issues were amalgamated under the Bank of England and the fiduciary issue was fixed at £260 millions. But a new principle was recognised that the fiduciary issue could be varied under prescribed measures of control (as in the case of the Reserve Bank of India's fiduciary issue). This was 'the first permanent breach' in the doctrine of a fixed fiduciary issue which was the basis of the Bank Act of 1844.

England suspended the gold standard on September 21, 1931, and this led to the abandonment of the old doctrine completely. "The fiction that a £ note represented an immutable weight of gold (about 0.235 fine oz) was abandoned, and so too was the concept that the size of this note-issue must rise and fall with each change in the size of our gold stock."⁸

On 1st March 1939, the Bank of England note circulation amounted to £526.4 millions. The Bank of England held £226.4 millions of gold against these notes (revalued at 148s. 5d. per fine ounce, i.e., at the current price of gold), and the amount of the fiduciary issue was £300 millions.

16. EXCHANGE EQUALISATION ACCOUNT

Import of gold and the revaluation of gold at the enhanced price (price of gold per fine ounce has risen from 84s. 11½d. to 148s. 5d. on account of the depreciation of the £ sterling) increased England's gold supplies from £136 millions in 1931 to £835 millions in March 1938. Gold has been divided into two portions. The gold with the Bank of England is a reserve against the notes. The other portion of the gold has been utilised to form the Exchange Equalisation Account to regulate the external movement of

⁸*The Economist*, May 20, 1939, p. 5.

funds into and out of the country. The Exchange Equalisation Account is under the control of the British Treasury (or Government), but in effect it is a third department of the Bank of England. This Account began with £150 millions, but it was twice enlarged, and on March 1, 1939, possessed £424·4 millions of gold, revalued at the price mentioned.

Gold from a foreign centre which temporarily seeks refuge in a country is 'hot gold,' which cannot be trusted to remain long in the country. When it is coming into, say, England from Holland, the demand for sterling would raise the price of sterling sharply; when it leaves England, sterling would fall heavily. To avoid violent fluctuations in exchanges on account of the inflow and outflow of foreign funds, the Exchange Equalisation Account acquires these funds when they are flowing in, and releases the gold when they want to leave the country.

When there is excess of gold in the Exchange Equalisation Account, it finds its way into the Bank of England, which makes use of the addition to its gold holding for increasing the supply of money.

We have seen that the growth of the English commercial and banking system made the cheque a far more important medium of exchange than gold or notes. The Bank Act of 1844 is practically a dead letter to-day. But the old doctrine on which the Bank Act was founded is not quite dead. As the *Economist* wrote in its leading article of May 20, 1939: "Currency may play a far less important part than it did a century ago, though the Bank's reserve of notes remains the foundation of our credit base. Yet bank credits and deposits must still respond to changes in our gold stocks, and so, while the form of our money may have changed, the control to which it is subject remains the same...The ghosts of Peel and Overstone can almost be heard murmuring, *plus ça change plus c'est la même chose*," (the more a thing changes, the more it is the same thing). Sir Robert Peel was the Prime Minister of England in 1844, and the proposal to divide the Bank of England into two departments was originally made by Mr. S. J. Lloyd, who, later, became Lord Overstone.

CHAPTER XXII

CRISES

An account of the Great Depression has been given in a preceding chapter. The Great Depression is so called on account of its unparalleled intensity and duration. But crises are a normal feature of capitalistic production.

There are cycles in trade. First we find trade in a state of 'quiescence—next improvement, growing confidence, prosperity, excitement, over-trading, convulsion, pressure, stagnation, distress, ending again in quiescence.' The course of a trade cycle was described in these words long ago by Lord Overstone.

1. COURSE OF A TRADE CYCLE

But why should a state of quiescence develop into over-trading and convulsions, to end finally in stagnation and distress?

Dr. Marshall found that a period of rising credit often had its beginning in a series of good harvests. If that is so, the trade cycle has its beginning in an objective fact. In an industrial country, the cheapening of food increases the purchasing power of large masses of workers. Their demand for goods in general increases, prices of manufactured goods rise and businesses and industries expand. Rising prices and profits inspire a feeling of optimism in business men. They ask the bankers for more loans and obtain them, for their optimism infects bankers as well. More and more money is borrowed, and more and more trade is carried on with borrowed money. Soon it is discovered that trade is in a dangerous condition. Too much money has been lent, and some bankers, cautious by nature, apply the brake. This is a signal for other banks to recall their loans. Some

businesses fail and involve others in their failure. Prices begin to fall and a process of liquidation sets in. There is a contraction of not only credit but of incomes and of the volume of production. After a painful process of readjustment, which may be short or long, recovery, at first slow, begins, and the cycle commences anew.

Instead of a series of good harvests, we may start a trade cycle with technical improvements which reduce expenses of production. Even when prices do not rise, profits increase considerably on account of the fall in costs, which leads to the rapid expansion of the industries concerned. The movement spreads from industry to industry, share prices go up and there is unbounded activity on the stock exchange. This activity is abetted and encouraged by banks. Then it is found that speculators have over-reached themselves, and the crash comes.

2. SYNCHRONISM AND PERIODICITY OF TRADE FLUCTUATIONS

Trade fluctuations synchronise, that is depressed or buoyant conditions in one or more industries produce similar conditions in other industries.

If profits are rising in one or more important industries employing a large number of workers, wages of these workers rise and their purchasing power increases. The rise of wages spreads from one industry to another, and demand for goods in general tends to increase.

A depression in an important industry, by causing a reduction in the demand for labour and raw materials, would produce conditions of depression in related industries. Psychological factors also come into play, with the result that when a depression comes, most industries are depressed at the same time; when revival begins, it is a general revival of trade activity.

This is true of highly developed industrial countries. In India, while there was a marked industrial recovery between 1932 and 1935, agricultural recovery was not so marked. The prosperity of our agriculture depends on the growth of exports and the rise in agricultural prices. It is possible to

create conditions of industrial prosperity in a backward country by restricting imports, but there are no means of compelling foreign countries to buy more raw materials and food-stuffs, and at higher prices. The rise of industrial wages in a predominantly agricultural country does not lead to an increase in the demand for goods in general, as in an advanced industrial country, because these higher wages are earned by a microscopic minority of the population. The expansion of industrial output creates employment, but for an infinitesimally small proportion of the total population.

Crises spread from one country to another. The American crisis of 1907 reduced Indian exports. The Great Depression began in the United States, but soon the entire world was in its grip.

Periodicity.—Trade fluctuations occur at more or less regular intervals. The period of a trade cycle is about 10 to 11 years, but within the longer cycle there may be shorter sub-cycles.

The more important crises in the 19th century occurred in England in 1825, 1837, 1847, 1857, 1866, 1878, 1890, and 1900. Each of these years formed the middle point of a cycle, being preceded by a period of expansion leading to over-trading, and followed by a period of contraction, more or less prolonged, and more or less painful.

The years 1843 to 1910 saw eight major trade cycles in Germany: 1843-51, 1852-61, 1862-68, 1869-79, 1880-87, 1888-94, 1895-1902 and 1903-10. Each cycle began with a boom, which was followed by a depression lasting from two to six years.

3. THE CLIMATIC EXPLANATION

In a paper written in 1875 Stanley Jevons sought to connect trade fluctuations with the solar period. He said:—

“There is no doubt that the energy poured upon the earth’s surface in the form of sunbeams is the principal agent in maintaining life here. It has lately been proved, too, beyond all reasonable doubt, that there is a periodic variation of the sun’s condition, which was first discovered in the alternate increase and decrease of area of the sun-spots, but which is also marked by the occurrence of auroras, magnetic storms, cyclones, and other meteorological disturbances. Little doubt is now entertained, moreover,

that the rainfall and other atmospheric phenomena of any locality are more or less influenced by the same changes in the sun's condition, though we do not yet know either the exact nature of these solar variations nor the way in which they would act upon the weather of any particular country.

"The success of the harvest in any year certainly depends upon the weather, especially that of the summer and autumn months. Now, if this weather depends in any degree upon the solar period, it follows that the harvest and the price of grain will depend more or less upon the solar period, and will go through periodic fluctuations in periods of time equal to those of the sunspots."¹

There is no doubt at all that sunspots vary in a cycle. Between 1861 and 1937 the mean number of sunspots observed was lowest in the following years:—

1867, 1878, 1889, 1901, 1913, 1923, 1933.

Does the sun send us more heat at sun-spot maximum than at sun-spot minimum?

It appears that in general the temperature of the world at large is somewhat higher at sunspot minimum than at sunspot maximum. Probably more heat is emitted by the sun at sunspot maximum, but increased heat would produce increased evaporation, which would result in increased rainfall, and a lower temperature.

The Indian Meteorological Department has long investigated the relation between sunspots and rainfall but it has not been able so far to correlate rainfall with sunspots.

Let us suppose, for the sake of argument, that increase in the number of sun-spots is accompanied by greater rainfall. A connection might be thus established between harvests in particular localities and sunspots. But greater rainfall may mean better harvests in some parts of the world and poorer harvests in other parts. The harvests of the world as a whole may remain unaffected by sunspots.

4. PSYCHOLOGY AND SUNSPOTS

Mass psychology plays an important rôle in a depression as well as recovery. Good-trade leads to over-trading on account of the feeling of optimism pervading business circles. When the crash comes, recovery is made difficult on account

¹ *Investigations in Currency and Finance*, pp. 175-76.

of pessimism which seizes everybody. In the worst phase of a crisis it is seen that even when money is plentiful, and when the objective causes which brought about the crisis are no longer at work, still trade does not revive.

An attempt has been made to connect mass psychology with solar radiation. The argument is so interesting as to deserve reproduction in full. H. T. Stetson says :

“1. Business fluctuates up and down in more or less regular cycles of about a decade.

2. Sunspots fluctuate in numbers and in intensity in more or less regular cycles of a little over a decade's duration.

3. With the variation in sunspots, the sun is known to vary the quantity and quality of its radiation sent to the earth.

4. Variation in radiation, particularly in the ultra-violet, is known to be capable of profound biological and physiological changes.

5. Demonstrable variations in the ultra-violet light of the sun are known to be accompanied by changes in the state of the earth's atmosphere.

6. Changes in the atmosphere and the electrical ions² have been found by some scientific workers to be accompanied by biological and physiological changes.

7. Certain plants have been found to increase their vitamin content when irradiated with ultra-violet light.

8. Vitamins and ultra-violet radiation have come to play an important part in physiological functioning, particularly as regards the endocrine³ glands.

9. Moods of human temperament are closely associated with the secretion of the endocrines.

10. Buying and selling waves with corresponding fluctuations in commodity prices will, in the long run, reflect confidence or anxiety on the part of the buying public.

11. The stock market is the direct evidence of the integrated psychology of the investment public.

12. The composite curve of business activity, therefore, is fundamentally a curve of mass psychology.

13. Variations in the quantity and quality of sunshine may be indirectly but nevertheless definitely associated with moods of optimism and pessimism.

14. Sunspots as indices of the activity and the character of solar radiation may therefore be expected to be accompanied sooner or later by cyclical changes in optimism and pessimism of the masses.”⁴

²An electrically charged atom of any substance is called an ion.

³Endocrines are 'blood glands.' They are so called because their secretions pass into the blood current.

⁴*Sunspots and Their Effects*, pp. 77-78.

A great deal of further research is needed to definitely establish a connection between human moods and solar radiation. The argument so well summarised above would seem to be somewhat far-fetched.

5. SOCIALIST VIEW

Socialist writers regard crises as inevitable under capitalism for two reasons, (a) there is concentration² of wealth in fewer and fewer hands, which leads to over-investment and over-production, (b) unregulated production and competition are sources of various maladjustments.

Sismondi.—Sismondi (1773—1842) noticed the connection between over-production and under-consumption before Karl Marx.

Under large-scale production goods are produced in larger and larger quantities which only the masses, that is the class of workers, can absorb. But the profit of the large-scale producer is limited by the difference between the price at which his products are sold and the cost of production. Now cost largely consists in workers' wages; the industrialist cannot sell his goods at a profit since he does not pay enough wages to enable his workers to buy the entire produce of their labour. Chronic over-production in modern society thus rests on the wage-system. The only way of getting rid of the surplus product of industry under the wage-system is by dumping it in backward countries, where industrialism and the wage-system have not yet developed.

The industrialisation of backward countries would limit the demand for the products of the leading industrial countries. Sismondi did not live to see this. The progress of 'coloured' capitalism after the Great War materially reduced profits in some important industries of the West (e.g., the Lancashire cotton industry). If backward countries learnt to manufacture their own machines and tools, to make all the railway material and mining equipment they now import, and to build all the ships they require for their carrying trade, profits and wages in many Western industries would fall.

Capitalism co-extensive with the whole world is unthinkable.

Bazard.—Saint Amand Bazard⁵ (1791-1832) emphasized the evils of unlimited competition.

If society may be viewed as a Collective Being (as Bazard viewed it) who grows from generation to generation as an individual grows year by year in obedience to a law of progress, war of man against man and class against class is a contradiction which should be removed. In the economic sphere this war takes the form of competition. The sentiment dominating industry is egoism—each one for himself: "The industrialist cares little for the interests of society. His family, his instruments of labour and the personal fortune which he endeavours to make: this is his humanity, his universe, his God."⁶ It is thought that even where each selfishly pursues his own interest, somehow the interests of all are promoted. The theory of *laissez faire*, *laissez passer* supposes that individual interests are always in harmony with the general interest. But 'facts without number belie it.' Bazard gives one example, 'out of a thousand.' It may be in the interest of society to use machines driven by steam power, but what about the hand-worker? The usual answer to this question is that the industry of printing has created more employment than unemployment, and the conclusion is drawn that in the end everything gets adjusted (*tout finit par se niveler*). "Admirable conclusion," exclaims Bazard ironically. "And until the adjustment is complete, what shall we do with thousands of starving men? Will our arguments console them? Will they bear their misery patiently, because statistical calculations prove that in a certain number of years they will have bread?"⁷

Bazard does not blame the inventor of machines, but "social foresight should bring it about that the conquests of industry are not like those of war; there should be no

⁵Bazard was a disciple of St. Simon, but he went far beyond his master. See *Doctrine de Saint-Simon, Exposition Première Année*, 1829, new ed. Paris, 1929 (Marcel Révière).

⁶Bazard, *loc. cit.*, p. 139.

⁷*Ibid.*, p. 141.

funeral chants mingling with pæans of joy."

As the result of unregulated competition equilibrium between production and consumption is constantly disturbed. Bazard proceeds:

"Let us cast a glance on the society surrounding us. Numerous crises, deplorable catastrophies, afflict industry daily; they have attracted the attention of a few people, but they are ignorant of the cause of such great disorder; they do not see that the disorder is the result of the operation of unlimited competition."⁸

Bazard finds the prime cause of industrial confusion and crises in the ownership of means of production by the class of landlords and capitalists by right of birth. They set people to work by providing them with the instruments of labour, of which they have the monopoly. They perform a social function, but do they perform it cheaply and intelligently and in a manner favouring the increase of industrial products? Bazard's answer is in the negative. They pay themselves handsomely for their services, considering the abundance in which they live. "On the other hand, considering the violent crises, the disastrous catastrophies which so often desolate industry, it is evident that those who distribute the instruments of labour perform their task with little understanding."⁹ Bazard does not blame them for their inefficiency. The direction of productive activity requires a profound knowledge of the relation between production and consumption, and of the mechanism which moves the wheels of industry. It cannot be assumed that those who have come to own land and capital by right of birth will necessarily possess the requisite knowledge and skill to adjust production to consumption.

Three conditions must be fulfilled if equilibrium between production and consumption is to be established: (1) that instruments of labour are distributed according to the needs of each locality and each branch of industry; (2) that this distribution takes place on the ground of individual capacity, so that instruments of labour are placed in the most capable

⁸Bazard, *loc cit.*, p. 267.

⁹*Ibid.*, p. 258.

hands; and (3) that production is so organised that there is never any fear of scarcity or surplus in any branch of production.

Bazard would put an end to anarchy in production through the creation of an organisation to co-ordinate all efforts. Unitary direction is to be substituted for no direction, or the separate individual judgments of industrialists.

Bazard wrote before Karl Marx. His explanation owes nothing to Marxism. Marx undoubtedly borrowed from Bazard.

There may or may not be a connection between sunspots and crises, but a connection between unregulated production and crises is undeniable.

6. REMEDIES

Where Government is the sole planning authority owns all instruments of production, controls foreign trade, and directs the flows of investment into various branches of production, there will be no unemployment and no crises—except when the plan goes wrong.

Under capitalism, as we have seen, the employment of productive resources depends on the decisions of independent producers, and maladjustments can easily occur.

When there is a crisis, which has thrown millions of workers out of employment, what is the best method of setting people to work and augmenting national income?

It is generally recognised now that cheap money, or inflation, is not a panacea. The rôle of money is important, but only in so far as it finances investment.

The 'Multiplier.'—Recent economic discussion of trade cycles has brought into prominence the concept of the 'multiplier.'

The Investment Multiplier.—There are two multipliers, the 'investment multiplier' and the 'employment multiplier.' The investment multiplier measures the relation between a given increase in gross investment and the resulting increase in total national income. It is a definite ratio between income and gross investment.

By 'gross investment' is meant the total sum invested

in industries. Gross investment is to be distinguished from 'net' investment. If investment in industries is just sufficient to maintain existing capital intact, there is no 'net' investment. 'Net' investment means additions to capital. Gross investment includes sums needed both to replace worn-out capital goods and to increase the total supply of capital goods.

The 'investment multiplier' is I. M. Keynes' contribution to the nomenclature of economics. He says: "Let us call k the investment multiplier. It tells us that when there is an increment of aggregate investment, income will increase by an amount which is k times the increment of investment."¹⁰

The value of k in different years in Germany is known. In 1926-27 there was an increase of gross investment of 2.3 milliard RM. (Reichsmarks) and the national income of Germany rose by 8.1 milliard RM. k was thus equal to 3.5. Between 1933 and 1934 German national income increased by 6 milliard RM. with an increase in aggregate investment of 3.1 milliard RM. k was thus about 2.¹¹

k will not have the same value from year to year. The relation between investment and income is not a simple one, for there are many complicating factors. National income is affected by exports and imports, and while imports can be controlled, increase in the intensity of competition in foreign markets may check the rising tide of production and income.

In the beginning, when the volumes of idle productive resources is considerable, a given increase of investment may make a considerable addition to national income; later, as productive resources are more and more fully utilised, the rate of growth of national income will tend to slow down.

The Employment Multiplier.—R. F. Kahn is responsible for the concept of the 'employment multiplier.'¹² The employment multiplier measures the ratio of the increment

¹⁰ *The General Theory of Employment, Interest and Money*, p. 115.

¹¹ *The Economic Recovery of Germany*, by G. W. Guilleband, 1939, p. 48.

¹² See *Economic Journal*, for June, 1931.

of total employment associated with a given increment of primary employment in the investment industries.

By investment industries we mean industries producing capital goods as distinguished from those producing direct 'consumers' goods. Suppose Government invests capital in industries producing indirect goods, e.g., railway material and machines and tools. Capital goods industries will expand and employ greater numbers than before. National income will increase. Expenditure on consumption goods will consequently increase, which will create new employment in these industries.

Increment of employment in capital goods industries due to a given aggregate investment is called primary employment, and employment created in consumption goods industries later is known as secondary employment.

Some time must elapse between the growth of output in the investment industries and the growth of income, which would stimulate the demand for consumption, and increase employment in the consumption goods industries. This is known as the 'time-lag.' The 'time-lag' is considerable when large stocks of unsold consumption goods are in existence. The consumption goods industries would begin to expand and employ more men when their old stocks have disappeared.

Again, the growth of income will not immediately lead to increase in the demand for goods if a great many people have to pay off accumulated debts. Increased income will be first employed to clear debts.

Pyramidenbau.—It may also be noted that all employment, as such, is not necessarily productive. There is work which the German calls *Pyramidenbau* (*bauen* to build, building of pyramids), which employs people, but is not productive of income. In a famine, for example, people may be employed on work which is of no real value. If labour is employed to construct canals which add to the income of the country, work is productive. If wells and tanks are dug which are never used, the work is of no value. But when there is unemployment on a considerable scale, even *Pyramidenbau* has its uses. It prevents demoralisation of labour by giving idle workers something to do.

State expenditure in a time of depression helps the rise of national income by increasing the volume of production and thus creating work. The two act and react on each other.

Rate of Interest.—In the early stages of recovery it is important that the rate of interest should be kept low. Government cannot provide all the capital for new investment, and borrowing from banks will be discouraged if they charge high rates of interest. Bankers can materially assist recovery by a judicious policy in regard to loans. When the rate of interest is high, it may be necessary for Government to take steps to reduce it. Government may set an example itself by replacing its bonds carrying a high rate of interest by new bonds issued at a lower rate. This is technically called 'conversion.' Long-term loans, issued when the market rate of interest was high, are sometimes 'converted' when the market rate of interest falls. This 'conversion' may also be made deliberately with a view to reducing the market rate of interest. If a holder does not agree to the 'conversion,' he may be allowed to draw interest at a higher rate, but the bonds may cease to be quoted on the stock exchange, and to be accepted by the Central bank as 'collateral.' The holder will climb down when faced with such alternatives. Having reduced the rate of interest on its own loans, Government may now succeed in persuading banks to lower their rates of interest. The Central bank, as we have seen, can also increase the supply of money by its 'open market operations,' that is, by purchasing securities on a large scale in the open market.

When recovery has set in, it may be necessary for Government to control investment. As profits increase, prices of shares will go up, and speculators may become over-active. If Government saw to it that no company paid dividends in excess of a reasonable figure, a check would be imposed on the rise in the prices of shares and on stock exchange speculation. Profits in excess of a given amount may be required to be invested in Government bonds. This was done in Germany in 1934. Cash dividends in excess of 8 per cent., and in some cases 6 per cent., were not permitted.

Any dividend above the fixed rate was to be paid over to the Gold Discount Bank for investment on behalf of the stockholders in Government bonds.

Government, acting in co-operation with banks, can do a great deal to mitigate distress in times of depression, in setting people to work, and in assisting recovery.

BOOK V

Distribution

CHAPTER XXIII

DISTRIBUTION: WAGES

In the preceding chapter we have obtained a general view of the complicated mechanism of exchange. Before proceeding to discuss the sharing of wealth we may once more emphasize the connection between production, exchange and distribution.

The total volume of production in a country is determined not only by internal demand and technical conditions relating to production but by the international exchange of goods.

Foreign Trade.—Take away Britain's foreign trade, and Britain will grow poorer. Terms of foreign trade have moved against India, and India's agricultural income has fallen heavily.

Rates of Exchange.—As we have seen, the movement of goods from one country to another is materially influenced by rates of exchange. The over-valuation of a country's currency checks exports and stimulates imports; currency depreciation, for a time at any rate, acts as a bounty on exports. Foreign trade and rates of foreign exchanges may thus cause production to increase or decrease. Whatever influences cause changes in the volume of production, affect distribution as well.

System of Money and Credit.—A country's system of money and credit is intimately connected, on the one hand, with the production and exchange of goods within the country, and on the other with imports and exports. We have noted the great development of the British banking system, the British credit factory, side by side with the growth of the British industrial system. Progress of industry is linked with the progress of banking, or the system of production is linked with the mechanism of exchange.

We have seen how the flow of production is interrupted by crises and studied the rôle of monetary and non-monetary factors in trade fluctuations.

The total quantity of wealth produced and, therefore, the magnitude of each share in the distribution of wealth is affected by the mechanism of exchange. A serious breakdown of this mechanism will bring trade and industry to a standstill. If the sources of agricultural credit dry up, not only will the moving of crops but the growing of crops be rendered difficult. When there is inflation, relative shares in distribution change. Heavy deflation, by initiating a process of general liquidation, may ruin industries and cause unemployment on a very large scale.

The problem of distribution, thus, is not an independent problem, and this is our reason for taking up distribution after the study of the mechanism of exchange.

1. GENERAL PRINCIPLES OF DISTRIBUTION

We shall discuss distribution piecemeal, but there are certain general principles to which attention may be drawn here.

The total wealth of a country is jointly produced by four factors: Land, Labour, Capital and Enterprise. The wealth produced, called the National Dividend, is divided among the four factors. But how?

If it were possible to clearly distinguish the contribution of each factor in the joint product, the problem of distribution would be simple.

Let us take a cloth-mill with an annual output of 1 crore yards of cloth. This is the joint product of land, capital invested in the mill, labour employed in the mill, and enterprise which brought the other factors together, and organised their work. If each of these factors had a specific productivity, or could point to a specific product due to it alone, each would claim what it had produced and have nothing to grumble about. But a joint product is not the sum-total of separate specific products. All that can be said is that land, labour, capital and enterprise have jointly produced a given quantity of cloth in a year.

A batsman hits an over-boundary. Can it be said that he did it with the action of his wrists alone which imparted a particular swing to his bat? No. He judged the ball with the eye, took a step forward, raised the bat, and hit it. The over-boundary was produced jointly by the head, eyes, wrists, shoulders, legs, or by the whole man.

Is Distribution a Scramble?—If there is no specific productivity of any factor, will not the distribution of wealth be a scramble?

Sometimes it does look like a scramble; for example, when there are prolonged strikes whose object is to 'squeeze' profits, or when employers declare a lock-out to enforce a cut in wages.

And yet there is a law of distribution, which fixes the general rates of wages, profits, interest and rent.

Suppose you wish to set up a sugar mill. You will attract unskilled labour by offering a certain rate of wages, let us say, 8 annas daily. Let us assume that you are a most kind-hearted employer, not the type of capitalist-employer whose portrait has been drawn by Karl Marx in his *Capital*. You do not wish to exploit labour. You may, if you so wish, pay your unskilled workers one rupee or ten rupees daily. But this is not business. You may give away the whole of your possessions in charity without setting up a factory. The question with which we are concerned is different. Why, without wishing to exploit any one, will you attract a particular class of workers at a rate as low as 8 annas daily, and why are you compelled to pay a salary of Rs. 1,000 a month to your engineer?

The sugar that you produce is a joint product. In the joint product every factor will claim a share according to established market rates. How are these rates settled?

Let us call the factors employed x , y and z , x standing for labour, y for capital, and z for land. These factors are employed by E, whose own remuneration we may, for the present, ignore. We may further assume that x , y and z are each of homogeneous quality, so that the rate of payment is the same for all units of a factor.

These factors will be combined in definite proportions. Suppose we vary the proportions. It is reasonable to suppose

that different combinations of factors will give different results. For example, we may take the following equations:—

$$x+y=22 \quad (i)$$

$$2x+3y=50 \quad (ii)$$

$$6y+11z=80 \quad (iii)$$

Given these equations, $x=16$, $y=6$ and $z=4$. We may introduce x , y , and z in each equation. Given the values of different combinations of x , y and z , the separate values of x , y and z can be easily found.

The equations given above are merely an illustration. If for example:—

$$x+y+z=50,$$

then by multiplying both sides of the equation by 3 we get

$$3x+3y+3z=150.$$

This is a true result in algebra. But in the economic world, if three units of each of the three factors were taken instead of one, it does not follow necessarily and mathematically that the total product would be exactly trebled. It might increase only $2\frac{1}{2}$ times, or 5 times.

But one thing is clear. If x and y remain unchanged, and z alone is slightly increased, the resulting increase in the joint product is attributable to z . For example:

$$x+y+z=50 \quad (i)$$

$$x+y+2z=60 \quad (ii)$$

Then subtracting (i) from (ii) we get $z=10$. It is possible for an entrepreneur to vary one factor, while other factors remain unchanged. With the same amount of land and capital, more or less labour may be combined. The resulting change in the product is the marginal product of labour. The rate of wages cannot exceed the marginal product of labour.

But there are tens of thousands of employers in a country, possessing varying degrees of skill in organising production. The marginal product of labour will not be the same in different establishments. How does one rate of wages emerge for the same class of labourers?

An analogous question is this: "When the marginal utility of tobacco to different smokers, and to smokers and non-smokers is not the same, how is the same quality of tobacco sold at the same price to all?"

We have already answered the question. The price of tobacco does not depend on the marginal utility of tobacco to any one smoker. It measures the marginal utility of tobacco to society as a whole, given a total supply and a total demand at any given time. The price having been thus determined, every one is free to buy any quantity of tobacco he pleases. Most smokers will buy such a quantity every month as will make the marginal utility of tobacco equal to price. Some may buy more than this quantity. Others may buy none at all—to these latter the marginal utility of tobacco is zero.

Tobacco is scarce, and it has alternative uses. It tends to be so distributed among its different uses that its marginal utility in all uses is the same. The price of tobacco measures its marginal utility to consumers as a whole.

The same principle explains the determination of various shares in distribution. Factors of production are scarce and they have alternative uses. The rate of payment for any factor measures the marginal utility of the factor concerned to society as a whole.

We often use the concept of 'marginal productivity' as expressing the 'marginal utility' of a factor. This is because a factor is not wanted for its own sake. The marginal utility of capital to a business man is its 'marginal productivity.' The two terms are interchangeable.

In explaining each share in distribution we shall take account of conditions of supply as well as demand. But at any given time the supply of a factor is fixed. Given the supply, marginal utility or marginal productivity of a factor determines the rate of payment.

2. The Iron Law of Wages

* We shall begin the discussion of wages with the Iron Law of Wages which Marx made the basis of his theory of exploitation.

According to Marx wages tend to equal the cost of production of labour-power.

Marx recognizes that wages rise and fall like the prices of commodities. These fluctuations are due to changes in

supply and demand. For a time, the market price of a commodity may rise above or fall below its cost of production, but market prices, as we have seen, tend to gravitate in their ups and downs towards a 'natural' price which is equal to cost of production. Similarly, the market price of labour-power may, for a time, exceed or fall short of its cost of production but, in the long run, according to Marx, it would tend to equal it. He says :

*"The fluctuations of wages correspond to the fluctuations in the price of commodities in general. But within the limits of these fluctuations the price of labour-power will be determined by the cost of its production, by the labour-time necessary for the production of this commodity : labour-power"*¹ (italics Marx's).

Marx thus defines the cost of production of labour-power : "It is the cost required for the maintenance of the labourer as a labourer, and for his education and training as a labourer."¹

The shorter the period of training, the lower will be the rate of wages. In industries where practically no apprenticeship is necessary 'and the mere bodily existence of the worker is sufficient,' the cost of production of the worker, according to Marx, 'is limited almost exclusively to the commodities necessary for keeping him in working condition.'¹

We have seen that progress in mechanisation has simplified jobs, so that in the Ford Works for 43 per cent. of all jobs a training of just one day sufficed in 1924. It follows that the wages of such workers will be just sufficient to keep their bodies and souls together !

We must make one allowance. The worker must get enough not only to subsist but to maintain a family. Marx goes on :

"Thus the cost of production of simple labour-power amounts to the *cost of existence and propagation of the worker*. The price of this cost of existence and propagation constitutes wages. The wages thus determined are called the *minimum of wages*. This minimum wage like the

¹ *Wage-Labour and Capital*, p. 26.

determination of the price of commodities in general by cost of production, does not hold good for the *single individual*, but only for the *race*. Individual workers, indeed millions of workers, do not receive enough to be able to exist and to propagate themselves; but the wages of the whole working class adjust themselves, within the limits of their fluctuations, to this minimum."²

In *Capital*, where Marx explains the production of 'surplus-value,' he assumes that the value of a day's labour-power is three shillings. Why is it three shillings exactly, why not more or less? Marx supposes that three shillings, representing a certain quantity of gold, incorporate six hours' labour, and that "this amount of labour is requisite to produce the necessaries of life daily required on an average by the labourer."³ When he examines the matter more closely he says: "The value of a day's labour-power amounts to three shillings, because, on our assumption, half-a day's labour is embodied in that quantity of labour-power, i.e., because the means of subsistence that are daily required for the production of labour-power, cost half-a day's labour."

By 'value' Marx means 'natural price,' not market price.

Normal wages are thus determined by the subsistence of the worker. If he got less, he would not be able to bring up a family and propagate himself. In the long run the supply of labour will decrease and wages would rise. If wages rose above the subsistence of the worker, numbers would increase rapidly and wages would be forced down, like the price of any commodity whose supply exceeded demand. An iron law, as it were, keeps wages down to the limits of means of subsistence. The 'Iron Law' is also called the 'brazen law' of wages, and the subsistence theory of wages.

It is further argued that, with the development of capitalism, the wages of the worker, which are barely equal to his subsistence, tend to decrease absolutely. Lenin

² *Wage-Labour and Capital*, p. 27.

³ Kerr Edition, p. 212.

says: "The worker is impoverished *absolutely*, i.e., grows actually poorer than before, is compelled to live worse, eat more sparingly, remain under-fed, seek shelter in cellars and attics. The relative share of the workers in capitalist society, which is rapidly growing richer, becomes ever smaller, because the millionaires grow richer ever more rapidly....In capitalist society wealth grows with unbelievable rapidity alongside the impoverishment of the working masses."⁴

Class-war.—Marx, Engels, and Lenin believed in class-war. Society, they thought, was composed of two broad classes, the property-owners, or the bourgeoisie, and the property-less or the proletariat. The lower middle classes, the *petite bourgeoisie*, they preached, sank gradually into the proletariat, and entire sections of the ruling classes were, by the advance of industry, also precipitated into the proletariat. Capitalism thus simplified class-antagonisms.

Capitalism brings masses of workers together in factories. They suffer together, and learn to act together. Their continued impoverishment finally makes them desperate and, in the end, they rise in revolt against the bourgeoisie, seize all property, and end the capitalist system.

Marx, Engels and Lenin were great propagandists. They ignored inconvenient facts.

Marx and Engels expected that English workingmen, these 'first-born sons of modern industry,' would be the first to make a revolution. This was because the divorce of property from labour was 'complete' in Great Britain.

The British proletariat, however, has declined to fulfil the historic rôle assigned to it. Why? The British proletariat is vanishing.

The condition of the British worker was indeed miserable about one hundred years ago. It improved with the progress of industry. It cannot be pretended that the wages

⁴ Quoted by Leontiev in *Political Economy* (Martin Lawrence), p. 120.

of British workers are at present subsistence wages.⁵

Out of a total of a little over 21 million persons in all occupied groups in Britain in 1931, the black-coated groups comprised a little over 6 millions. Adding two pre-capitalist groups, agricultural workers and domestic servants, who are not the sons of modern industry, we get a total of about 8½ million persons in non-proletarian groups, or over 40 per

WAGES IN THE UNITED KINGDOM

				Average salary	
<i>University Teaching Staff:</i>				<i>£ per year</i>	
Professors	...	...	...	1,095	(1935-37)
Readers, Assistant Professors and Independent					
Lecturers	...	...	...	664	"
Lecturers	...	...	...	471	"
Assistant Lecturers & Demonstrators	...	...	...	308	"
Others	...	...	...	384	"

Average salary of certified School Teachers:—

Men	...	...	...	330	(1937)
Women	...	...	...	257	"

*Weekly rates, for
31st Dec. 1937.*

Agriculture (England and Wales):—

Average rate of wages of ordinary male labourers	s.	d.
	33	7½

Engineering average of recognised rates in 16 principal centres:—

Pattern makers	...	...	...	72	2
Labourers	...	...	...	49	10

Furniture (Average of recognised rates in 20 large towns):—

Cabinet-makers	72	9
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Printing (Average of recognised rates in 26 large towns):—

Hand Compositors (book & jobbing)	73	10
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Building (Average of recognised rates in 39 large towns):—

Bricklayers	71	1
Masons	71	1
Carpenters and framers	...	...	...	71	0
Labourers	...	...	...	53	3

Railway Service:—

Engine Drivers	...	...	...	72 s. to 90 s.
Goods Porters	...	...	...	47 0

Local Authorities (non-trading) Services (Average of rates in 28 large towns):—

Labourers	54	4
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(Source: Statistical Abstract for the United Kingdom, 1939, pp 154-57.)

cent. of the whole employed population.⁶

It is not possible to-day to regard society in Britain as divided into two classes, proletariat and bourgeoisie. There are also powerful intermediate groups, with a non-proletarian outlook.

It is estimated that the middle class formed 19 per cent. of the occupied population in Britain in 1881, 26·9 per cent. in 1901 and 29·1 per cent. in 1831.⁶ The progress of capitalism does not cause the middle classes to sink into the proletariat but to expand.

The proportion of the total national income paid in salaries in Britain, according to Prof. Carr Saunders, rose from 12·0 per cent. in 1911 to 26·0 per cent. in 1935. The salaried worker belongs to non-proletarian groups.

Embourgeoisement of the Proletariat.—Most interesting of all, the proletariat turns bourgeois, a process called *embourgeoisement* of the proletariat by Mr. Durbin.⁶ The proletariat acquires property in the shape of a monetary reserve. Twelve million separate accounts in the British Savings Banks contained an average holding of £50 in 1935. In addition, the proletariat held funds to its credit in several other forms. The total investments of the small investors are estimated at about £3,000,000,000 for over 15 million investors.

Mr. Durbin concludes: "The proletariat is the great class of industrial workers who own *nothing* but their labour and who, therefore, have 'nothing to lose but their chains,' to quote the peroration of the *Communist Manifesto*. It is the literal and sober truth to affirm that a class so defined is rapidly disappearing. In Great Britain it is disappearing. In America it has disappeared."

But the Iron Law of Wages is in operation in India. Millions of our workers employed in agriculture and hand-industries are under-fed. Factory labour in India is drawn from the villages. Industrial wages in India are not high, still they are high enough to attract rural labour.

⁶ *The Politics of Democratic Socialism* by E. F. M. Durbin (Routledge), Part II C.

⁷ *Ibid.*, p. 113

Under certain conditions earnings may be less than subsistence. These earnings may be wages of workers working under a master, or the independent earnings of peasants and cottage-workers. The supply of labour increases or decreases slowly. When workers do not get two square meals a day, they try to live on one. Their standard of living falls, and that is all.

When wages rise, the standard of living rises, and to maintain the higher standard of living, workers, as in the countries of Western Europe, limit the size of the family.

3. THE WAGES FUND THEORY

Like the Iron Law of Wages, this is also a discredited theory. At one time J. S. Mill thought that the general rate of wages was determined by that part of the circulating capital of a country which was 'destined for the purchase of labour.' If a fund has been set apart for hiring labour, the general rate of wages would depend upon the number of labourers seeking employment. The fund is the dividend, the number of labourers is the divisor, and the quotient is the rate of wages. To increase the quotient, either the dividend must be increased, or the divisor reduced. Since the wages fund is fixed in amount, it follows that the rate of wages can be increased only by reducing the number of labourers.

But wages may be raised by 'squeezing' profits. Wages have risen as the bargaining power of labour has increased. Secondly, no fixed fund, destined for the payment of wages, exists. The fund increases or decreases with employers' expectations of profits.

If there is a fixed national wages fund, it must be composed of wages funds of individual employers. Very few employers resolve to spend a fixed amount in employing labour, irrespective of the state of trade, prices of goods, and their hope of profit or fear of loss. If individual employers do not keep fixed wages funds, destined for the payment of wages, it follows that there is no fixed national wages fund either.

The term 'wages fund' is employed in the Soviet Union. Russian economy is a planned economy, with the State owning all instruments of production. When the annual budget is prepared, a sum is set apart for wages. This is the Russian 'wages fund' for the year. The wages fund may be increased by supplementary grants. In explaining budget revenues in 1936, M. Grinko, then Soviet Commissar of Finance (since executed), mentioned the projected increase of over 7,000,000,000 roubles in the 'wages fund.'⁸ The wages fund increased from 34,000 million roubles in 1934 to 95,000 million roubles in 1938. As the Soviet Union does not publish cost of living-index numbers, nor the salaries paid to the upper classes of the bureaucracy, nor wages of different classes of industrial workers, it is impossible to say how far this enormous increase in the 'wages fund' signifies an increase in the real income of workers in the Soviet Union.

J. S. Mill showed rare courage in abandoning the wages fund doctrine when its shortcomings were pointed out to him.

4. THE RESIDUAL CLAIMANT THEORY

The worker is sometimes regarded as the residual claimant to the product of industry. Out of the total product of industry definite shares go to the landlord, the capitalist and the employer; what is left, the residue, is wages.

Suppose the total product of industry increases as the result of an improvement in the quality of labour. Workers become more painstaking, more careful in their work, and there is a saving in the materials used in each and every stage of production. Who will benefit by the increase in the output of industry?

Walker's answer is 'Labour.'⁹ Under perfect competition no increase will take place in the other three shares, for conditions of supply and demand in their case have not

⁸ *Soviet Union*, 1936, p. 483.

⁹ *Political Economy*, by F. A. Walker, p. 254.

changed. The increase in output is due to workers and will be claimed by them.

$\frac{a \quad b \quad c \quad d \quad x \quad \dots \quad y}{\quad}$

Let us assume that before labour became more skilful, the total product of industry was ax , of which ab represented rent, bc interest, cd profits, and dx , the residue, wages. If there was an increase in the total product equal to xy , due to labour, it would ultimately go to labour. Increased competition among employers for labour would raise the rate of wages.

There is an element of truth in this theory. When the productivity of labour increases owing to any cause, wages rise, as we shall explain presently. But facts of daily observation show that it is not the worker but the employer who pays the other factors, and takes what is left. When prices rise, profits rise first. Wages rise later, and not without trouble. When prices fall, profits fall immediately and workers resist a cut in wages as long as they can. Profits act as a buffer between prices and wages; they absorb the first shock of price fluctuations.

5. THE PRODUCTIVITY THEORY OF WAGES

We shall give easy illustrations to explain the productivity theory of wages, according to which wages tend to equal the marginal net product of labour.

Suppose you own a big ice-cream factory at Lahore and sell ice-cream through 'stop-me-and-buy-one' vendors. How many vendors will you employ?

You will consider the demand for ice-cream in Lahore. There are also other ice-cream manufacturers, and ice-cream competes with 'gulf.' Let us suppose your ice-cream is preferred by the public. Even then you will employ a limited force of vendors. Perhaps 100 men will be sufficient.

In adding another vendor to your force you will take into account the wages that you will have to pay, and the amount of ice-cream that the additional man will be successful in selling. Let us suppose that he brings you ten rupees at the end of the day. Is this sum his 'net' product?

No. A certain cost was incurred to produce the ice-cream sold by him, and in providing the man with a uniform and the selling equipment. When this cost has been deducted from the gross receipts, what is left is the net addition that he makes to your receipts,—say one rupee. This is the net value of the services of the additional man to you, and his wages cannot exceed this sum.

If you employed more and more men, marginal product of labour would fall—or the amount which each successive man would add to your net receipts would grow less and less, other things being equal. Unless the demand for your ice-cream unexpectedly increased, or your rivals began to disappear, one after the other, two vendors serving a street, where formerly there was one, would not be able to double your sales in that street.

How many men you would find it profitable to employ as vendors would depend upon the rate of wages. At the margin, net receipts on account of a vendor would be equal to his wages. If one rupee daily is the rate of wages, you will not employ a vendor when he adds less to your net receipts than one rupee. It is unprofitable to employ him.

A sheep farmer employs shepherds to look after his sheep. If an additional shepherd will annually save the lives of a given number of sheep, his wages cannot exceed the value of the sheep saved. A wheat farmer, similarly, would not pay wages exceeding the marginal product of labour.

We have seen that equalisation of wages and marginal product, while it is easy in theory, may present difficulties in actual practice.

In the examples given the marginal product is measurable. An additional ice-cream vendor makes a net addition to his employer's total receipts; an additional shepherd saves the lives of sheep; an additional farm-labourer adds to the output of the farm.

In these examples we do not assume that labour has any specific productivity clearly distinguishable from the productivity of land, capital and enterprise. Labour alone can produce little or nothing. The product of industry, as we have seen, is a joint product. But the marginal product of

labour is found by employing a little more or a little less labour, other factors remaining the same. At any given time the total supply of labour will tend to be so distributed among different employments that marginal product of labour is the same in all employments; the rate of wages would be equal to this (net) marginal product. If an employer, by employing more men, would make an addition to his net receipts greater than the wages that he had to pay, he would bid for more labour. The rate of wages would rise to a point where no employer could increase his net receipts further by bidding higher for labour against his competitors. When this point is reached, all the labour would be employed at a wage equal to the marginal product of labour.

This argument applies to a given class of homogeneous labour. Differences in efficiency must be separately allowed for. Superior workers of a given class, say, blacksmiths, would get a wage equal to the marginal product of their class, *plus* something more. The extra payment, under competitive conditions, would measure their extra worth to the employing class in general.

In the case of domestic servants, the marginal product is the gain in added convenience and comfort to the household employing an extra man. This gain would be unequal in the case of different households, but the wages of domestic servants would correspond to the marginal utility of their services to society as a whole. This is true of all classes of workers. The marginal productivity or marginal utility of a given class of workers is social marginal productivity or social marginal utility.

6. WAGES AND STANDARD OF LIVING

The standard of living depends on wages, but it is sometimes argued that wages also depend on the standard of living.

Why are the wages of industrial workers higher in England than in India? If the higher standard of living of British workers explains the difference in wages, our workers have only to raise their standard of living in order

to earn more. Why, if primary school teachers did not object to raising their standard of living, they might be earning Rs. 1,000 instead of less than Rs. 20 a month! And coolies, if only they were willing to raise their standard of living to the level of princes, might be enjoying princely incomes!

The idea is ridiculous. A desire to maintain a high standard of living, which leads to the limitation of births, raises the marginal utility of labour by restricting its supply. A rise in the standard of living which neither increases efficiency nor restricts numbers, cannot raise wages.

7. RISE AND FALL OF WAGES

Adam Smith wrote in 1773 :

"It is not the actual greatness of national wealth, but its continual increase, which occasions a rise in the wages of labour. It is not accordingly in the richest countries, but in the most thriving, or in those which are growing rich the fastest, that the wages of labour are highest. England is certainly, in the present times, a much richer country than any part of North America. The wages of labour, however, are much higher in North America than in any part of England."¹⁰

In new countries the marginal productivity of labour is high and labour earns high wages. Labour is scarce relatively to the resources to be exploited. The rise of wages depends upon the rate at which new wealth is created by labour in co-operation with the other factors. Wages continue to rise so long as progress continues. When the limit of expansion is reached, and the marginal product of labour becomes stationary, wages cease to rise.

Even in old countries a rise of wages may be brought about by the scientific exploitation of natural resources. The construction of canals considerably enhanced the material wealth of the Punjab. Possibly the limit of expansion in this direction has been reached.

Wages thus rise not only when labour becomes more

¹⁰ *Wealth of Nations*, Book I; Chapter VIII.

alert and painstaking but when nature is more bountiful, or science powerfully aids man in the exploitation of natural resources.

Suppose employers become more efficient as a class. The increased efficiency of employers will show itself in a better organisation of work, a more scientific division of labour and machinery, greater success in realising various economies of production and in avoiding waste. The net result will be to raise the marginal product of labour and wages.

Suppose the number of employers increases. Competition among employers would become keener and the level of their general efficiency would rise. Wages could not fail to rise.

When improvements are made in the methods of production and new inventions are made which increase the productive power of labour, wages rise. When, however, the introduction of machinery creates more unemployment than employment, a rise in the wages of a comparatively small number of factory employees may be of little significance as compared with the reduction in the earnings of a great many cottage workers. But, as we have seen before, the introduction of machinery does not necessarily have that effect. Further, the State may control and direct the use of inventions, minimising the undesirable reactions, or shortening the period of transition.

Fall of Wages.—Whenever the marginal utility of labour falls, the rate of wages must fall, irrespective of 'efforts and sacrifices' embodied in labour, or its 'cost of production.'

The marginal utility of labour falls when the supply of labour increases, demand remaining the same.

The fall in the earnings of agriculturists at the present time is explained by the rapid increase in the number of cultivators during the past twenty years while the area under cultivation has been practically stationary. In addition, exports have declined. The world in general has less need for our food-stuffs and raw materials, or for labour engaged in producing them, than before.

Any causes which reduce efficiency, such as ill-health or semi-starvation, will lower wages.

Any causes whether concerning labour itself, or the employing class, or the natural resources of a country, which lower the marginal utility of labour will lower wages.

8. SOCIAL SIGNIFICANCE OF MARGINAL WORTH

The rate of wages paid to a class depends not on the total but the marginal utility of that class to society as a whole.

Suppose the supply of medical practitioners steadily increased while the demand for their services remained unchanged. The marginal utility of medical practitioners to society as a whole would fall, and with it their fees.

An increase in the supply of medical practitioners and the fall in their rate of remuneration will be of general benefit to society, but medical practitioners will suffer.

To be more precise, we should say that wages tend to be equal to the *discounted* marginal product of labour. Where wages are paid before the product of labour can be sold, the employer suffers a loss in interest on the capital advanced in the form of wages. He therefore makes a deduction from the marginal product of labour.

What is the precise social significance of marginal worth or *discounted* marginal worth?

It is exactly the same as in the case of commodities. No one can live without air, but air is a free good because the marginal, not total utility of air is zero. Diamonds can be more easily dispensed with than coal, but the marginal utility of diamonds is greater, and therefore a single diamond may be worth thousands of tons of coal.

The marginal worth of a factor is no indication of the social importance of the work performed by that factor. Marginal worth is produced by the general relations of demand and supply. As high prices may be paid for harmful luxuries, purveyors of services which corrupt and degrade humanity, may, under the rule of marginal worth, reap a rich return.

Further, when it is stated that under capitalism every one is paid what he is worth, two assumptions are made: (1) a factor which is paid at a rate below its marginal worth

can readily move to another place or into another occupation where it will earn more, and (2) there is no privilege or monopoly.

These assumptions are seldom completely realised in practice. Workers are very often obliged to accept their traditional work in the locality in which they reside at the prevailing rates. A change of occupation or place is generally attended with difficulties.

We have also seen that workers possess little bargaining power. Wages, therefore, tend to settle at a point below the discounted marginal product of labour.

Then there are privileged groups, as certain classes of Government servants. When appointments are made on grounds of race, community or caste, the law of marginal utility ceases to apply.

9. NOMINAL AND REAL WAGES

Nominal wages are wages in terms of money. Real wages depend on a number of factors besides the purchasing power of money. Money wages of two workers in different occupations in the same country may be equal, but real wages may be widely different, even when the purchasing power of money is the same for both. Differences in real wages are due to:—

(1) Extra payments in money or kind, e.g., bonus, a Government servant's pension, employer's contribution to provident fund, free board or lodging.

(2) Length of working day and holidays. Real wages of shop assistants in Lahore have been increased by recent legislation fixing hours of work and granting a weekly holiday.

(3) Character of work. Work may be pleasant, or unpleasant. Work may be such as tends to undermine health and shorten life (e.g., lead working).

(4) Regularity of employment. Real wages of casual workers are low in the end though they may be paid at higher nominal daily rates than the same classes of permanent employees.

(5) Possibility of adding to income in spare time. Real

wages are higher where the worker gets spare time in which he may add to his income.

A worker in choosing an occupation takes all incidental advantages and disadvantages, besides pay and disutility involved in work, into consideration. The attraction of an occupation depends upon its *net* advantages.

It is not always easy to assess the money value of an advantage, or disadvantage (e.g., unpleasantness of working in a gutter) attaching to an occupation. It may be expected that as the result of competition wages in pleasant occupations would be comparatively lower than in unpleasant occupations, other things being equal. This is not always so. The supply of sweepers may be in excess of demand, which would keep their wages low. Even when a change of occupation is not impeded by caste restrictions, it may be long before the normal working of competitive forces reduces numbers sufficiently in an unpleasant and low-paid occupation to raise the level of wages.

There is a change in relative wages when the wages of blacksmiths rise while those of carpenters remain stationary or rise by a smaller percentage. The causes enumerated above account for differences in relative wages.

10. HOURS OF WORK

In the first half of the 19th century hours of work were too long in English factories. When reformers suggested a reduction in the interests of the workingman, economists argued that as a result profits would vanish, the trade of the country would suffer, and employment would decrease. Experience, however, has shown that when hours of work are too long, shorter hours increase the productivity of labour. It is not possible for any one to work with concentrated attention for 12 or 13 hours; more may be produced in 8 or 9 hours' intensive work than in twelve or more hours' indifferent labour.

When a worker is free to choose his hours of work, he will weigh the income added by work during the last hour against the exertion involved. All hours of work are not equally unpleasant; some may even be pleasant, for there is

such a thing as joy of working. But as we continue to toil hour after hour, disutility increases at an increasing rate.

Rates for overtime are generally higher than rates for work during normal hours.

In factories the shift system permits of shorter hours for labour while there are longer hours for machinery.

Workmen may be divided into three batches, each batch working for eight hours. This is sometimes necessary when, as in a turpentine factory, work must be done continuously. The shift system is employed on railways and in certain other services.

11. TRADE UNIONISM

The weakness of the individual labourer in bargaining with an employer and in protecting his interests generally led to the rise of trade unionism in the manufacturing countries of the West.

The trade union movement in India is yet in its infancy, but it is gaining strength. The Indian Trade Unions Act was passed only in 1927.

A trade union has been defined as 'a continuous association of workers for the purpose of maintaining or improving the conditions of their working lives.' Thus a temporary combination of labour which has been formed to organise a strike is not, properly speaking, a trade union.

The legal definition differs from the authoritative definition given above. Our Trade Unions Act defines a trade union as 'any combination, whether temporary or permanent, formed primarily for the purpose of regulating the relations between workmen and workmen or between employers and employers, or for imposing restrictive conditions on the conduct of any trade or business.' Employers' associations may be registered as trade unions under this definition.

The registration of a trade union is not compulsory, but any seven or more members of a trade union may, under certain conditions, apply for the registration of the trade union under the Act.

British workers led the way in organising trade unions.

A brief history of the trade union movement in England will, therefore, not be without interest.

The modern trade union is different from the medieval guilds. Guilds included both masters and workers, whereas the trade union is an association of workers only. Employers have their separate organisations.

Regularly organised trade unions did not exist in England until the 18th century. Before the Industrial Revolution there were organisations of skilled workers in various crafts, such as printers, tailors, and wool-combers.

The Industrial Revolution gave a great impetus to the movement. The authorities in England were alarmed by the growth of the spirit of revolt among the workers and Combination Laws were passed between 1799 and 1824 suppressing the unions as criminal conspiracies. Any worker who organised a strike or joined a trade union was criminally liable to punishment. The Combination Acts were repealed in 1824, and a great outburst of strikes followed. The freedom to combine was again considerably curtailed, but the right to combine and to strike on questions of wages and hours was not withdrawn. The unions formed in this period had militant objects, of fighting capital, but a new spirit came into existence after the repeal of the Corn Laws in 1846 and the beginning of joint-stock enterprise under the Acts of 1844 and 1855. The employers, foreseeing the possibilities of great industrial advance, became more friendly towards labour, and labour became less keen to overthrow capitalism. A new type of union emerged, of which the Amalgamated Society of Engineers was a conspicuous example. The new unions sought to combine in one body the functions of a friendly society (providing sickness, accident and other benefits) and a trade union.

Full recognition to trade unions was granted in England in 1871, but picketing was declared illegal. This error was rectified in 1906.

The Amalgamated Society of Engineers, and other unions of the same type, were craft unions. They included members of only one craft, e.g., engineers, or spinners, or compositors. Later, industrial unions grew up, which included all workers belonging to different crafts in the same industry

(e.g., Miners' Federation, National Union of Railwaymen, Iron and Steel Trades Confederation). Sometimes industrial unions excluded the less skilled workers. A third type of union organised the less skilled workers and the whole of the workers in the smaller or less clearly defined industries in one body (e.g., Transport and General Workers' Union.)

Between 1892 and 1925 the total membership of trade unions in Great Britain increased from 1,576,000 to 5,222,000. The total income of trade unions in 1924 amounted to £11,000,000 and the total accumulated funds to nearly £11,500,000. In 1937 the number of trade unions was 1,033 and the number of members 5,851,000; the accumulated funds had risen to over £ 18 millions.

Trade Unionism is an international movement and an International Federation of Trade Unions, representing many countries, existed before the present war, with Sir Walter Citrine as Secretary.

Trade unions are free to engage in political activities, even in India. They may have a political fund from which payments may be made 'for the promotion of the civic and political interests of the members.' This includes payments of any expenses incurred, either directly or indirectly, in connection with the election of candidates as members of legislative bodies or their maintenance, and the holding of political meetings of any kind, or the distribution of political literature or political documents of any kind.

Functions of Trade Unions.—The chief function of trade unions is to protect the interests of their members as workers. This they do by conducting negotiations with employers in regard to questions of pay and bonus, and other conditions of employment. Peaceful bargaining is often successful in gaining its object, partly or wholly. When there is strike or a lock-out, it is the duty of trade unions to support their members who have ceased to work. A powerful union will therefore build up large strike funds. Many trade unions, besides protecting the interests of their members, also provide benefits in various forms, e.g., aid in sickness or unemployment, or in fighting cases of workmen's compensation. But this is a secondary function.

Where labour is well-organised, collective bargaining

largely replaces bargaining between the employer and individual workmen. It goes without saying that trade unions, apart from promoting a feeling of solidarity among workmen, have been a powerful means of securing improvements in the conditions of employment. ✧

The most effective weapon which labour uses to enforce its demands is the strike. Strikes inflict considerable losses on employers. But labour itself does not escape injury, and widespread and prolonged strikes affecting important industries are a national disaster. Strikes embitter the relations between labour and capital, interrupt the normal course of production and economically weaken a country. When a national industry is progressing rapidly, helping to reduce imports, the outbreak of violent and prolonged labour disputes in the industry makes its foreign rivals happy. An exporting industry may lose its foreign markets temporarily and even for ever as the result of strikes.

12. THE STATE AND WAGES

Collective bargaining interferes with the working of free competition. State regulation of wages ends free competition in this field.

We have travelled far from the days when the slightest interference with the laws of supply and demand was regarded as an evil. Those were the days of *laissez faire*.

A Committee on emigration from the United Kingdom, appointed in 1827, condemned State regulation of wages in the following words:—

“Your Committee cannot express too strong an opinion against the idea of regulating by legislation the rate of wages, under any conceivable modification.....It is from an entire ignorance of the universal operation of supply and demand regulating the rate of wages that all these extravagant propositions are advanced.”¹¹

These words were undoubtedly penned by a *laissez faire* economist.

The wages of British cotton weavers fell heavily in the

¹¹ *Wages and the State*, by E. M. Burns, p. 3.

first decade of the 19th century and in 1803 an attempt was made to induce Parliament to fix a statutory minimum for weavers' wages. A Select Committee was appointed to report on the question. It took the view that the proposal was impracticable and likely to aggravate distress. An old Elizabethan Act, the Statute of Artificers, still existed containing wage clauses which empowered magistrates to settle wages in cases of dispute. These wage-clauses were repealed by Parliament in 1813. Parliament took action under the influence of the exponents of political economy. Ricardo strongly condemned the agitation in support of the Elizabethan Act. "The principles of political economy," he wrote, 'never changed, and those who did not understand that science had better say nothing about it, but endeavour to give good reasons, if they could find any, for supporting the existing Act.'¹²

Another prominent economist, Nassau Senior, wrote in 1830:—

"In the natural state of the relation between the capitalist and the labourer, when the amount of wages to be paid, and of work to be done, are the subjects of a free and open bargain; when the labourer obtains, and knows that he is to obtain, just what his services are worth to his employer, he must feel any fall in the price of his labour to be an evil, but is not likely to complain of it as an injustice. Greater exertion and severer economy are his first resources in distress, and what they cannot supply, he receives with gratitude from the benevolent. The connection between him and his master has the kindliness of a voluntary association, in which each party is conscious of benefit, and each feels that his own welfare depends, to a certain extent, on the welfare of the other. But the instant wages cease to be a bargain—the instant the labourer is paid not according to his *value*, but his *wants*, he ceases to be a free man."¹³

The *laissez faire* economists assumed that under free competition the labourer obtained as wages what he was

¹² Cunningham in *Growth of English Industry and Commerce*, p. 636n.

¹³ See *Wages and the State*, by E. M. Burns, p. 5.

worth to the employer. That would be so provided the labourer knew exactly what his worth to the employer was, and was in a position to refuse to work for less. Neither of these assumptions is true.

British workers to-day would be amused to learn from economists that when their wages are reduced by employers, the remedy partly lies in appeals to the 'benevolent' for charity!

This point of view is dead. To-day the State actively interferes in the relations between employers and employees.

The strongest case exists for the regulation of wages by the State in 'sweated' trades. A 'sweated' trade is one in which hours of work are unduly long and wages unduly low. The object of State action is to prevent the exploitation of workers who are not in a position to safeguard their interests. This is specially true of 'home-work' done by women. An enquiry made in France before the Great War showed that in the lingerie trade 60 per cent of the workers were receiving less than 16 *centimes* per hour (about 1½ anna), while in isolated districts the earnings per hour were as low as 5 *centimes*. The first Home-Work Act was passed in France in 1915, and similar legislation was enacted shortly afterwards in Norway, Austria and Czecho-Slovakia.

The movement spread to Canada and the United States, and it had now a broader scope. The demand was made for a living wage for women. By 1919 eighteen States of the American Union had minimum wage laws for women; Canada enacted similar measures.

In Australia and New Zealand a feeling grew up that in view of the loss to the whole community occasioned by strikes, the State should settle industrial disputes by acting as the final arbitrator. Organisations were created under Conciliation and Arbitration Acts to maintain industrial peace, which eventually developed into bodies exercising wide powers of control over wages in many fields of industry.

13. METHODS OF WAGE REGULATION

There are three chief methods employed, (1) the fixed minimum wage, (2) the board system, and (3) the arbitration system.

The minimum wage is fixed by law, and the scope of its operation is indicated.

In the year 1939, before the outbreak of the present war, the Bombay Government fixed the minimum wage for Government servants at Rs. 25 per month. If it were enacted that no operative in cotton mills was to be paid less than Rs. 25 per month, that would be a fixed minimum wage for the cotton mill industry. No employer would be prevented from paying more, but no one would be allowed to pay less than the fixed minimum.

Sometimes fixed minimum wage legislation makes allowance for annual increments in wages and for special rates of wages in special circumstances, and different minimum rates are fixed for different industries. But generally there is no differentiation according to trades and no account is taken of special circumstances. A minimum weekly rate is fixed below which no wage is to be paid in any industry or trade.

The Board System.—Under the Board System wages are regulated, not by Government but by Boards set up by Government. A Trade Board is composed of equal numbers of representatives of employers and workers of the trade concerned. The trade itself, through the Board, determines wages, which are enforceable on all employers concerned.

In Canada and the United States a Permanent Commission is appointed, or authority is given to the Labour Department of the Government to intervene in wages. Having satisfied themselves by investigation that Government intervention is necessary, the Labour Department, or the Permanent Commission, set up a Wages Board, equally representative of employers and workers. The Wages Board makes its recommendations regarding a living wage for the industry concerned, which are reviewed and may be amended by the Commission.

The Arbitration System.—Arbitration may be voluntary

or compulsory. The Indian Trade Disputes Act of 1923, as amended in 1932, makes provision for the settlement of industrial disputes through conciliation. If a dispute is apprehended or exists, the Local Government or the Governor-General in Council may refer the dispute to a Court of Inquiry or a Board of Conciliation appointed for the purpose. Where a Board of Conciliation does not consist of independent persons, it is equally representative of the parties to the dispute.

Neither party to the dispute is under any obligation to accept the findings of a Court of Inquiry or the advice of a Board of Conciliation. The decision of the Court of Inquiry or Conciliation Board is published, and reliance is placed on the force of public opinion to induce both parties to abide by the decision.

But they may not. Arbitration is compulsory when industrial disputes are finally settled by a Court of Inquiry or a Conciliation or Arbitration Board, the decision arrived at being legally enforceable. This is the case in Australia and New Zealand. A permanent Court of Arbitration exists which deals with disputes either directly or through Deputy Courts. Both employers and workers are legally bound to submit to the award of the Court.

An additional body, with special wage-fixing powers, has been set up in New South Wales and South Australia. Its chief function is to determine what is the living wage at any time. This body works under the authority of the Court of Arbitration. When a living wage declaration has been made by this special body, no lower wages may be fixed by any authority whatsoever.

Wage regulation is not simple and no one principle could be rigidly applied by an Arbitration Court without sacrificing some other principle. For example, if the basic rates are revised on account of rise in the cost of living, it may be contended that wage rates are no longer stable. If the principles of uniformity within a grade and of fair margins between different grades are strictly followed, the capacity to pay of particular industries is ignored. If the capacity to pay alone is considered, uniformity will be sacrificed, and the margins will be constantly shifting. In the actual working

of wage-regulation machinery, however, it may not be impossible to harmonise principles which are apparently at variance with each other. The decisions of an Arbitration Court may not be ideally perfect, but they may still secure industrial peace. When they are not in harmony with market conditions they may be revised and altered.¹⁴

¹⁴In an informing article in the *Economica* for August, 1938, Mr. E. J. Riches has drawn attention to conflicts of principle in wage regulation in New Zealand.

The policy adopted by the New Zealand Arbitration Court, says Mr. Riches, "may be broadly summarised as an attempt to fix minimum rates of wages that would be uniform within each single grade of work, appropriately differentiated for work of different grades, adequate to provide a living wage within the capacity of industry to pay, fair as compared with the shares of total product received by other factors of production, and stable over fairly long periods." He notes two main conflicts of principle, (a) those affecting primarily the relative rates of wages in different trades and industries, and (b) those concerning mainly the absolute level of wages in general.

In regard to (a) the Arbitration Court has been guided mainly by the principles of uniformity and fair margins. Within each grade of work the Court has attempted to standardise the remuneration for tasks requiring equally scarce abilities; in dealing with different grades of work, it has attempted to fix appropriate margins corresponding to differences in skill, care and responsibility required. These two principles form the basis of a system of standard minimum rates for three main grades of work, skilled, semi-skilled and unskilled.

The principles of uniformity and fair margins came into conflict with that of variations in wages according to the capacity to pay of particular industries. In certain cases the limited capacity to pay of a particular industry was accepted by the Court as a reason for fixing the minimum rates for skilled workers in that industry at a level below the standard minimum for workers in their grade.

There are only three main standard minimum rates, and they have been so fixed that they can be paid even in periods of temporary depression. The Court's minimum rates are designed merely to remunerate fairly "the worker who comes up to the minimum requirements for the class of work in which he is engaged," and to permit the employer to give "due recognition to workers of greater industry and efficiency." The standard minimum rates being low, there is room for variations in actual wage-rates according to differences in individual skill, or the capacity to pay of particular industries.

In regard to the general level of wages, as distinguished from relative rates, the Court has been guided by the principles that wages should be within the capacity of industry to pay, adequate to provide a living wage,

British Trade Boards.—The first Trade Boards Act was passed in England in 1909. It applied to 4 trades only. In 1913, 9 other trades were included in the scope of the Act. A new Act was passed in 1918 empowering the Government to extend the Act of 1909 to certain trades if it was 'of opinion that no adequate machinery exists for the effective regulation of wages throughout the trade and that, accordingly, having regard to the rate of wages prevailing in the trade or any part of the trade, it is expedient that the principal Act should apply to that trade.' Within two or three years of the passing of the Act of 1918 the number of Boards increased to 63 and the number of protected workers rose to about 3 millions.

The number of members of a Trade Board varies greatly. In addition to the ordinary members, representing workers and employers, each Board has five members appointed by the Ministry of Labour. One of these nominated members, very often a University Professor of Law or Economics, acts as chairman.

Trade Boards fix a minimum rate of wages for time-workers and sometimes also minimum piece-rates. The Board may fix a series of minimum rates to come into force successively at the end of specified periods.

Machinery was devised in 1924 to regulate the wages of agricultural workers. The Agricultural Wages (Registration) Act of that year empowered the Minister of Agriculture to establish an Agricultural Wages Committee for each stable over fairly long periods, and fair as compared with the share of other workers.

The capacity to pay has played a major part in the decisions of the Court. This principle came into conflict with those of an adequate living wage, and stability over fairly long periods. The Court attempted to remove the conflict by fixing standard minima at a level well within the normal capacity of industry to pay. The minimum wage, a Judge of the Arbitration Court held, 'should not be so high as to be oppressive to employers in the industry in times of temporary depression, and it should leave a margin sufficient to enable an employer to pay higher rates to his more industrious and deserving workers when trade is moderately prosperous, and to pay higher rates to his workers generally in times of trade activity.'

When the cost of living rises, the basic rates are increased. Once a Court held that if an industry could not pay a reasonable living wage, it was in the interests of the community that it should cease operations.

county in England and an Agricultural Wages Board for the whole country. It is these Committees who fix and alter wages.

The Indian Labour Commission was dissatisfied with the wages of coolies on the Assam tea plantations. Powerful organisations of employers exist in Assam and wages are determined by their joint action. There are no unions of the coolies, who are illiterate, speak different languages, come from different parts of India, and live and work in the comparative isolation of plantation life. "Workers in such a position," concluded the Indian Labour Commission, "stand in special need of protection," and they recommended the introduction of wage-fixing machinery in Assam. No action in this direction has so far been taken.

In Germany, Italy and the Soviet Union strikes and lock-outs are illegal. In the Soviet Union Government fixes the wages of industrial labour. In Italy labour has its independent organisations, like the employers, and wages are settled by collective bargaining, without recourse to strikes and lock-outs. When there is a dispute, conciliation is tried, and finally the matter is dealt with by a Labour Court, whose decision is final. In Germany employers as well as workers are united in a single organisation known as the Labour Front. The functions of the Labour Front were set out in a Government Decree in 1934:—

"The aim of the German Labour Front is the formation of a real community of achievement (*Leistungsgemeinschaft*) amongst the whole German people. It must seek to ensure that every individual can take his place in the economic life of the nation in that mental and physical condition which will make for his greatest achievement, and thereby secure the greatest gain to the community as a whole.....The Labour Front must seek to preserve industrial peace by inculcating in employers (*Betriebsfuehrer*) an understanding of the legitimate claims of their employees (*Gefolgschaft*), and in the employees an understanding of the situation and the possibilities of the business in which they are working.....Its duty is to find that compromise between the legitimate interests of all concerned which corresponds to the fundamental principles of National Socialism, and which will limit the number of cases which are referred for final decision to the State authorities established under the law of January 20, 1934.....It has the duty of administering *Kraft durch Freude* (Strength through joy) and has to supervise vocational training."¹⁵

¹⁵ See *The Economic Recovery of Germany, 1933-38*, by Guillebaud, pp. 194-95.

The Labour Front has no direct power over wages. The principle of collective bargaining was abolished by the National Socialist Government, and the power of fixing minimum wage rates, whether for a single undertaking or a whole industry, was given to State officials, appointed by the Ministry of Labour, who are known as Trustees of Labour. These Trustees revised wage-rates throughout Germany and as many as 7,000 wage-determinations (*Tariffordnungen*) were issued by them between 1934 and the end of 1937.

14. METHOD OF INDUSTRIAL PEACE

Industrial peace is disturbed because workers believe that wages are not 'just.' A 'just' wage from the point of view of labour may not be 'just' in the opinion of the employer. There would be little objection to letting labour and capital fight it out between themselves if the general interests of the country were not involved. A railway strike disorganises trade and industry, and apart from the inconvenience caused to the public, inflicts enormous losses on business men. Lahore knows only too well the effects of a sweepers' strike. In India, under the Trade Disputes Act, workers employed on monthly wages in public utility services cannot go on strike without previous notice. Having given due notice, workers in any postal, telegraph or telephone service, any undertaking or business which supplies light or water to the public and any system of public conservancy or sanitation, may keep away from work as long as they please, or can hold out.

A 'just' wage is not the highest wage demanded by labour, nor is it the lowest wage that a capitalist would be pleased to give. A 'just' wage is the maximum wage that can be paid, having regard to the condition of a business or an industry at a particular time. A 'just' wage may be found not by labour alone, nor by capital alone, but by both together with the assistance of the State.

This is how the problem of a 'just' wage has been solved in democratic England at the present time. In the course of a debate in the House of Commons on November

27, 1940, Mr. Bevin, Minister for Labour said: "The Government had succeeded in settling a problem in industry that had baffled every one for generations, namely to put the wages in the tool-room right and to get skilled men in the right place."

If Government can put men in the right places and give them the right wages in a time of war, it can do so in times of peace as well.

The problem of a 'just' wage is capable of solution through Government action. If labour still insists on its right to strike and to create unrest, it is for reasons of class-war, which is advocated as a method for overthrowing the rule of the bourgeoisie and establishing a communist society.

Incidentally it may be remembered that industrial workers in India form less than 1 per cent of the population.

Piece-work.—Sometimes suitable methods of wage-payments promote harmony between workers and employers. Wages may be paid according to time or by piece. Piece-rate payment means payment by results. Where results are not capable of measurement, piece rates cannot be applied. Clerks are paid by time—it would be difficult to pay a clerk by the number of entries he has made in a register, or the number of cases he has dealt with during a day. Most transport workers are also paid by time. In other cases the product may be affected by weather, e.g., in the building industry. Piece-work rates produce contentment when there is a fair degree of correspondence between efforts and output, and the result of the effort can be calculated more or less exactly.

Piece-workers earn more than time-workers, as the following examples will show:—

Average earnings in
the textile industry
in the Bombay City
Area (1934).

Process operatives—

Head jobbers spinning side ...

{ Time
Piece

RS.	A.	P.
3	13	6
4	14	10

Head jobbers weaving side ...

{ Time
Piece

RS.	A.	P.
5	6	9
5	15	1

		Average earnings in the textile industry in the Bombay City Area (1934.)		
<i>Process operatives—</i>		RS.	A.	P.
Fancy jobbers	Time	2	9	5
	Piece	3	13	5
Bundle wrappers, Men	Time	0	11	11
	Piece	1	2	3
Pieces Stitchers, Men	Time	0	12	2
	Piece	0	15	10

Many workers in Western countries object to payment by results on the ground that it leads to undue speeding up and therefore subjects the worker to greater strain.

Marx condemned the piece-rate system. The piece-wage, according to Marx, is a form of wage-payment 'most in harmony with the capitalist mode of production.'¹⁶

Bonus Systems.—Under the piece-rate system there is a piece-work price, let us say, 4 annas for sewing on 50 shirt-buttons, and the day's earnings would be determined by the total quantity of work executed. Under the best known of the bonus systems, the premium bonus system, a standard time is fixed which the job ought to take, and the worker is paid for the time actually taken at his time-rate. But if the time taken is less than that allowed for the job, he is also paid a bonus based on the amount of time saved. The 'Rowan' premium bonus system is commonly used in England and, under this system, for every one per cent of time saved the worker receives an addition of 1 per cent to his time-wage.

Efficiency Systems.—The main idea of efficiency systems is the scientific fixing of piece-work prices. The object is to increase the efficiency of the worker. Various devices are applied to stimulate efficiency. Sometimes the piece-work price is not fixed but rises as the output rises. This is known as 'the differential piece-rate system.' Elaborate scales of payment are worked out suited to particular jobs.

Sliding Scales.—Wages may rise or fall according to the cost of living, or as the selling price of the product rises or falls. The sliding scale has been tried in coal-mining. It may be assumed in the case of coal that profit increases

¹⁶ *Capital*, Vol. I, Kerr ed., p. 608.

		Average earnings in the textile industry in the Bombay City Area (1934.)		
<i>Process operatives—</i>		RS.	A.	P.
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¹⁶ *Capital*, Vol. I, Kerr ed., p. 608.

1937 with profit-sharing schemes in operation was 410. The average percentage addition of bonus to earnings was 6'1.

Labour Co-partnership.—Labour becomes a real partner when it shares not only in profits but in control. This is achieved by putting representatives of employees on the board of directors. Labour-leaders generally make fun of such schemes. They point out that worker-directors are invariably small in number, and only 'safe' men are chosen. The South Metropolitan Gas Company in England, a model co-partnership concern, has three worker-directors out of a total of ten. A worker-director must hold at least £120 worth of stock in the Company, and have been at least 14 years in the service of the Company.

15. WAGES IN THE U.S.S.R.

An attempt was made in Russia soon after the Revolution (October 1917) to level down wages. For example, in the metal industry, taking the wages of unskilled labour as 100, the proportion of skilled to unskilled wages sank from 244 : 100 in August 1917 to 139 : 100 in June 1918. Payments in kind (rations) had the effect of further reducing the gap between different scales of money wages. The Bolsheviks started with the idea of abolishing money and steadily pursued that aim for a few years. Bukharin¹⁷ regarded the use of money in the Soviet System as a transitory phenomenon. Explaining the programme of the Bolsheviks in 1919 he said :

"A great deal of time is required for organising, regulating everything. It is new work, never before attempted anywhere in the world and therefore particularly difficult. But one thing is clear, the better workers are able to control production, the smaller would become the need for money, and in the end money would gradually die out completely."

Speaking in 1919 the Communist Krestinsky, who then represented the Soviet Government in Germany, said : "No one doubts that there will be no money in a communist

¹⁷ See *Kann das Geld Abgeschafft Werden*, by A. W. Cohn (Jena, 1920) p. 58 and *Der Geldverkehr in Sowjetrussland* by A. P. Markóff, p. 1.

society ; we shall open a new page of a money-less economy."

To establish a money-less economy a series of decrees were issued in 1920 and the first half of 1921. But the attempt to abolish money failed.

When there is no money, wealth will be distributed directly in the form of goods. If there is super-abundance of all goods, every one may consume according to his needs. Goods produced may be piled up in stores, and their doors thrown open. But this is utopia.

When the objects of consumption are scarce, rationing must be introduced. And between 1917 and 1921 the Bolsheviks combined money-wages, whose importance was gradually diminishing, with large payments in kind.

Naturalising wages.—The term 'naturalising wages' was first used in the Soviet press towards the beginning of September 1918. The All-Russian Conference of Metal Workers was the first to adopt a resolution on 19th October, 1918 concerning a practical solution of this question. "The resolution was framed in accordance with the proposal of the author of these lines," says M. Larin¹ (Soviet official who nationalised banks). In the following year a beginning was made in this direction. In April, 1919, Government orders issued providing workers' and officials' children up to the age of 16 with free food. Later, free clothes, boots, caps and stockings were provided to all school children. "These measures," says M. Larin, "which equalised the position of workers with and without a family, meant an important step towards altering the material relations between individual persons and the society as a whole, since, in the place of money-wages, there appeared the distribution of products of social labour among workers in accordance with their needs." Here was the first step taken towards natural and unsophisticated interpretation of the communist slogan : "From each according to his faculties, and to each according to his need."

A further step in the same direction was the prohibition

¹ *Das Wirtschaftsleben in Sowjet Russland*, by L. Larin, Hamburg, 1921. One of a series of books issued by the Communist International. See for this interesting account p. 69 et. seq.

to raise house-rents above the level of 1st July, 1919. Since money was rapidly depreciating, this meant reduction of house-rents to an insignificant amount. Later, houses in the big centres of the population, e.g., Moscow and Petrograd, were nationalised.

This was followed by the free provision of working clothes, head-dress and working boots to all workers. Towards the end of 1919 soap was added to the free list. A few months before orders had issued enabling workers to buy fixed quantities of sugar, salt and safety matches with ration cards at the prices of July, 1919. Local Soviets organised free theatricals for workers. In March, 1920, among other things, free hot lunches were served to all workers and officials at their places of work. In June, 1920, came the abolition of charges for travelling by railway trains and ships, both for workers and officials going on a holiday and those returning to work. Finally, to increase productivity, extra payments were made in kind for extra effort (sugar, salt, manufactured goods, etc.) apart from card rations. A beginning was made by setting apart 40 million pieces of cloth and 10 million match boxes for railway workers.

It is estimated that in the spring of 1920 payments in kind by the State met at least half the needs of the workers. It was for this reason that workers did not insist on a rise in money-wages corresponding to the fall in the value of paper-money. "Thanks to the new economic organisation," writes M. Larin, "the workers are losing all interest in money-wages. Money is beginning to lose its function in Russia, as banks, stock-exchanges, etc., have already lost it."

The formal abolition of money came on 1st January, 1921.

The results of naturalisation of wages were not satisfactory. It may seem that the physical needs of different workers are the same, and that wages are 'just' when inequalities in wages are reduced to a minimum. But when good, bad and indifferent workers, skilled and unskilled workers, experts and non-experts are all paid workmen's wages, efficiency suffers, and output decreases. Wages had not been brought down to one, uniform level in Russia

but such levelling as had been effected produced undesirable reactions.

Change of Policy.—It was officially admitted in August 1921 that the levelling down of wages "under existing conditions means a senseless waste of the country's resources" and the Council of People's Commissars said: "All idea of levelling [of wages] must be decidedly rejected."¹⁹ Different scales of wage-payments were evolved for work requiring varying degrees of skill. An investigation into wages, carried out in February 1923 by the Central Bureau of Statistics, showed that, taking wages for unskilled work as 100, the proportion of skilled to unskilled wages in extreme cases was: in machine construction 355·9:100, in the coal mining industry 411·7:100 and in the glass industry 820:100.²⁰

The Soviet Government was ultimately forced to restore a money economy. The card system, which enabled workers to buy certain goods at lower prices, was maintained till 1935. In that year bread cards were abolished and all rationing was suppressed. V. I. Mezhlauk, Chairman of the State Planning Commission, thus explained in January, 1936, the function of the rouble in the Soviet system:

"With the abolition of the card system, the rapid elimination of payments in kind and the abolition of two and even three sets of prices as the monetary system developed, the rouble is becoming the sole and effective means for the realisation of the socialist principle of payment for labour."²¹

Piece-Wages.—The socialist principle of payment for labour, according to the Bolsheviks, is payment by results!

Productivity of labour in Russia has rapidly increased since 1935. This is due to three factors: (i) the reintroduction of a money economy, (ii) piece-wages, and (iii) the Stakhanov movement.

The Stakhanov movement is known by the name of A.G. Stakhanov, a coal-hewer of the Donetz coal-field. The

¹⁹ Dr. Salomon Schwarz, *Der Arbeitslohn und die Lohnpolitik in Russland*, Jena, 1924, p. 61.

²⁰ Schwarz *loc. cit.* pp. 64-5.

²¹ *Soviet Union*, 1936 (Lawrence and Wishart), pp. 387-88.

object of the movement is the attainment of the highest output possible for the individual worker. Stakhanov workers are shock workers who set the standard for others.

The three factors mentioned above are mutually interacting. Piece-wages would lose much of their incentive if goods were sold at different prices to different classes of consumers, and the Stakhanov movement could not have developed without the stimulus of piece-wages.

When prices are the same for all classes of workers, and when wages are paid in money alone and increase progressively with the productivity of the worker (differential piece-rates), the stimulus of material gain will cause the worker to exert himself to the utmost.

Molotov said on January 10, 1936: "The interest of the workers in increasing their wages was of no little importance in the development of the Stakhanov movement, and, in fact, the earnings of the Stakhanovites began to attain record proportions."²²

What type of men are Stakhanovites? They are men, says Stalin, 'who are able to appreciate the time factor in work, and who have learnt to count not only the minutes but also the seconds.'²³

One may learn to count not only the seconds but fractions of a second when the rate of wages rises progressively with the increase of output.

The following example of the Soviet method of paying wages is taken from a speech by Kaganovich, Soviet Commissar of Railways:

Progressive Piece-rates.—For a standard run averaging 2,100 kilometers a month for the railways as a whole, engine drivers receive 22 kopeks per km.; if they exceed the monthly standard run, they receive 44 kopeks for an excess up to 10 per cent, and 66 kopeks per km. for an excess of over 10 per cent.²⁴

Exceeding the standard monthly run by over 10 per cent increases the standard rate of wages threefold.

²² *Soviet Union*, 1936 (Lawrence and Wishart), p. 68.

²³ *Ibid.*, p. 7.

²⁴ *Ibid.*, p. 193.

It may be doubted whether such progressive piece-rates are employed anywhere else in the world.

It is easy to understand that Russian workers are most interested in being transferred from the time system to the piece-rate system, and from the group or brigade piece-rate system to the individual piece-rate system. The disadvantage of the collective group or brigade piece-rate system is that Stakhanovist shock workers are defrauded of part of their earnings for the benefit of inferior and negligent workers.

In the month of August, 1935, before the Stakhanov movement, the output of coal in the Donbas amounted to 5,500,000 tons. In December of the same year, when the Stakhanov movement had already developed, the output increased to 7,125,000 tons. In December, 1925, the Donbas produced 1,604,000 tons of coal in all, that is less than the increase of output achieved by the Stakhanov movement in December, 1935, as compared with August of the same year.²⁵

One more example may be given to illustrate the wonderful effects of the monetary stimulus and progressive piece-rates. The Superintendent of the First Machine Shop of the Stalin Diesel Works reported that on the very first day the Stakhanovite shift fulfilled its programme 155 per cent, whereas formerly it used to fulfil it 46, 50 and 53 per cent.²⁶

According to Molotov, in regard to the average level of productivity and cost of production, Russia is 'still lagging considerably behind America and Europe.'²⁷ But before the introduction of the new system things were much worse. The 'chase after the rouble' has filled socialist Russia with a new hope—that of overtaking and surpassing the foremost capitalist country in productivity.

²⁵ *Inequality of Incomes*.—There is considerable inequality of incomes in Russia. One source of inequality is inheritance. Another source is different scales of pay for different classes of workers, apart from payment by results, which

²⁵ *Soviet Union*, 1936, pp. 64-5.

²⁶ *Ibid.*, 1936, p. 113.

²⁷ *Ibid.*, p. 75.

would cause incomes of the same category of workers to differ according to their productivity.

Fenner Brockway says: "Even in Soviet Russia, where workers' power was gloriously won in 1917, the increased differentiation of income and the reintroduction of the right of inheritance indicate a retreat from the class-less society of socialism rather than an advance towards it."²³

The facts regarding wages quoted by Comrade Yvon²³ (who worked in the Soviet Union in various capacities for eleven years and rose to be a factory director) are the following:

	<i>Highest and Lowest Monthly Salaries.</i>	<i>Usual Monthly Salaries.</i>
Workers	... 80 to 400 R.	125 to 250 R.
Small employees	... 80 to 300 R.	130 to 225 R.
Maid servants	... 50 to 60 R. plus board and lodging	.
Employees and average technicians	... 300 to 800 R.	
Responsible administrators and specialists, high officials, some pro- fessors, artists and writers.	... 1,500 to 10,000 R. and more; for some the monthly income is quoted at 20,000 to 30,000 R.	

Pensions.

Workers' pension	... 25 to 80 R. per month without any privileges.
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Pensions granted to widows of high officials and important specialists range from 250 to 1,000 roubles per month *plus* villas or apartments for life and scholarships for their children and sometimes even for their grand-children.

Commenting on these figures, Comrade Yvon says:

"It is evident from these tables that, on the one hand, there are considerable differences within the same category (for example, from 80 to 400 R.), and on the other, between

²³ *Workers' Front*, p. 25.

²³ *Ce qu'est devenue la Revolution Russe*, pp. 25-26. (*Les Brochures de la Revolution Proletarienne*).

the categories (*Pourquoi ne pas dire classes?*—why not say classes?) the difference extends from 25 R. for the pensioned worker to 10,000 R. and more for the privileged worker in active service."

He calls a pension of 30 to 50 R. '*une veritable pension de misere*' (a true pension of poverty or a miserable pittance). The purchasing power of a pension of this amount is not very great, equal to 4-6 rupees.

Finally Comrade Yvon exclaims: "How far are we from the famous thesis in which Lenin proclaimed in 1917: 'The salaries of the highest officials should not exceed the average salary of a good worker' (*Pravda* of 20th April, 1917)." ³⁰

Speaking on the Party Programme in March, 1919, Lenin deprecated a policy of pin-pricks with regard to experts. He would pay them more than the worker, but five times more, not a hundred times more. Even paying experts five times more than the worker, Lenin thought, was over-paying experts. ³¹ Marx would pay everybody 'ordinary working-men's wages,' nothing more.

Money wages in Russia would be higher to-day. Their exact level and their purchasing power are not known. In 1937 the purchasing power of 8 roubles was about equal to that of one rupee.

Up to 1930 the State Planning Commission (Gosplan) issued a monthly review containing useful information. But in 1930 it was decreed that statistics had to 'play a practical part in the war of communism against capitalism.' The result is that "no statistics of any sort are issued dealing with prices, currency, housing, cost of living, and a number of other economic phenomena which are indispensable to a true evaluation of an economic system." ³²

All that we know is the increase in the 'wages fund.' But that is not very helpful in forming an idea of the purchasing power of different sections of Russian Society.

³⁰ Yvon, *loc. cit.* p. 13.

³¹ Lenin, *Selected Works*, Vol. VIII, p. 351.

³² *Soviet Trade and Distribution*, by I. J. Hubbard, p. 368.

16. GENERAL CONCLUSIONS

The Russian experiment teaches us two important lessons. First, wages cannot be equalised without reducing productivity.

Second, differences in wages even under socialism are determined by productivity, or, as we may say, marginal utility of different classes of workers.

If a Soviet Commissar is enabled by the State¹ to spend £7—15 a day for board and lodging in a Russian hotel and to gorge caviare at each meal, it is because the type of ability represented by this Soviet official is more scarce than that represented by unskilled workers. Even under socialism demand is the determinant of value, not 'efforts and sacrifices.' No standard exists for comparing the 'efforts and sacrifices' of ordinary workers with those of technical experts, members of the bureaucracy, or factory managers and directors.

The principle of scarcity governs the rate of wages under capitalism and the same principle is found in operation in the Soviet system. All that the State can do is to reduce inequalities in wages, but there are very definite limits to that process, as Russia has learnt by experience, and as we may learn from Russia.

Finally, a class-less economic society is a utopia. Land and capital may be nationalised, but income-differentiation cannot be abolished, except in a community of saints who are not interested in the material requisites of well-being. Wherever there are differences in income, economic classes exist; it is differences in income which create the rich and the poor. Income is the real basis of social classes. A Government servant who owns no property but enjoys a salary of Rs. 3,000 per month, belongs to a higher social group than an owner of property like the peasant proprietor. Property is valued as a source of income, not for its own sake.

It would be idle to pretend that society in Russia with privileged members of the bureaucracy and highly paid experts and technicians on the one hand, and lower grades of workers 'condemned to an existence which borders on

misery' on the other, is a class-less society.³³

"The contrast between the style of living of different classes has been described by many writers who speak with intimate knowledge of Soviet Russia. One example will be sufficient. Andrew Smith says (*Life as a Soviet-Worker*, pp. 45-47):—

"Vassiliev and his wife lived in a room about twenty or twenty-five feet square. There were six beds in the room to accommodate the couple and four other tenants who lived in the room. The furniture was very scant, including a few chairs, a table and a chiffonier. For want of space a number of coats and dresses hung on the walls. They had no radio or pictures.....

"Compare this picture with what I saw elsewhere. One day a friend of mine, who worked in a Gay Payoo factory, asked me to visit him in an apartment house restricted to Gay Payoo officials.....

"I was led into a gorgeous seven-room apartment equipped with its own kitchen and individual bathroom, with elevator service, telephones, steam heat, hot and cold water. My host lived there with his wife and two maid servants. The couple had no children. The apartment consisted of a salon, or sitting-room, a dining-room, two master bedrooms and one bedroom for the two servants, an office or work room for the master of the house, a room for card-playing and dancing and a summer porch. The apartment was sumptuously furnished with thickly upholstered chairs, soft couches and expensive antiques. Scattered throughout the suite were small, hand-covered tables covered with beautifully coloured mosaics made of rare Ural stone. The parquet floors and the walls were covered with thick, hand-woven Oriental rugs. In odd corners one could see rich knick-knacks consisting of jewel boxes made of sea-shells, vases, hand-carved ash trays and Oriental bric-à-brac. From the ceiling in each room hung a heavy crystal chandelier. These were supplemented by more modern floor lamps, with cut-glass and silk-shades. The couple possessed a radio of Russian manufacture and a German phonograph. On the floors of the master bedrooms were thick white bear-skins. Rich Russian hand-made draperies hung about the walls to complete the picture. It was the most luxurious apartment I had ever seen, richer even than the apartment of the wealthy business man in Pittsburgh for whom my wife had worked as a cook.

"I found the lady of the house reclining in a soft easy chair in the sitting-room, reading a magazine. She held a gold-tipped cigarette in her soft fingers. I could see her highly rouged finger nails. She had not spared either lipstick or rouge in making herself ready for the occasion and her eyebrows were carefully plucked in the most up-to-date manner. Her bleached hair was permanently waved *à la mode*.

"Clad in a heavy, dark, silk dress, cut very low, she wore silk stockings and high-heeled shoes to match. Occasionally she glanced at her imported gold wrist watch and toyed with her pearl necklace. Heavy gold earrings hung almost to her shoulders. Her fingers were heavily ringed. Altogether, by her appearance and manners, she looked to me

like a prostitute.

"We were served in the brilliantly lighted dining-room with delicacies which I had not seen in the Soviet Union. There was real tea, served in delicate Oriental cups, and poured from an enormous steaming silver samovar. The knives, forks and spoons were apparently relics of the treasures of the defunct Russian aristocracy. There was a special silver service for each course. We had white bread, butter, caviare, cheese, fresh radishes, salmi, fish, fresh fruit, apples, pears, raspberry, compote, delicious Russian candies and pastry, and cognac of the most ancient vintage.

"In the course of the repast, my hostess consumed a most generous portion of the cognac. She began to laugh hysterically and talk in loud tones. As we left the house after our visit, I remarked sarcastically to my friend:

"'And this is what the Russian workers have to slave for! And they call this a workers' country!'

"'This is nothing,' my friend replied; 'you ought to see what goes on when they throw one of their Gay Payoo parties.'"

CHAPTER XXIV

OVER-POPULATION AND UNEMPLOYMENT

The supply of labour in any one industry can increase only at the cost of other industries, when there are no unemployed workers to be absorbed. Increase in the total supply of labour is dependent on the growth of population. Is there any law governing the growth of population?

1. THE LAW OF OVER-PRODUCTION

"There is no exception to the rule," wrote Charles Darwin, "that every organic being naturally increases at so high a rate that, if not destroyed, the earth would soon be covered by the progeny of a single pair." Over-production is a law of nature; striking examples of the operation of this law are given in text-books of biology.

In the case of the elephant, Darwin calculated that the progeny of a single pair would number 19 millions in 740 to 750 years, assuming that the elephant begins breeding when 30 years old, and brings forth six young in sixty years.

The thrush, we are told, is not a specially prolific bird. It has two broods a year and may breed for nine years, laying about four eggs in each clutch. If all the offspring of a single pair lived and mated, at the end of the first thrush's life, it has been calculated, the number of descendants would be 19,500,000. Twenty years later the number would increase to 1,200,000,000,000,000,000,000. "If all these thrushes stood shoulder to shoulder, about one in every 150,000 would find perching space on the whole surface of the terrestrial globe."¹

¹ *Mankind and Biology*, by S. A. McDowall, p. 52.

T. H. Huxley estimated that the descendants of a single green fly, if all survived and multiplied, would, at the end of one summer, weigh down the population of China!

Biologists speak of the 'prodigality of production.' What exactly life is, nobody knows, but that there is superabundance of it is undeniable.

All living organisms tend to increase rapidly far beyond the ultimate numbers which can possibly survive: "Organisms at their least rate of increase reproduce in geometric ratio, whereas the space they may occupy and the available food supply remain constant."²

Over-production gives rise to a terrible struggle for existence among living organisms. They fight for food and *Lebensraum* (living room). There are two main aspects of this struggle.

Inter-specific struggle is the struggle between members of different species. In order to live man has to clear the jungle and to destroy beasts of prey. India still pays its annual tribute of human life to the jungle.

The intra-specific struggle is the struggle among members of the same species. This internecine warfare goes on unceasingly. Its result is elimination of the weak and survival of the fittest. The 'fittest' in biology has no moral significance. An example of intra-specific struggle is human warfare. The intra-specific struggle is fiercer and more effective in checking the growth of numbers than the struggle between members of different species. The needs of members of the same species are similar, and the struggle to secure food and living room consequently more bitter.

That big fish swallow up small fish is well known. Young trees in a forest have to struggle against each other for survival. When lobsters are allowed to multiply in an aquarium, 'cannibalistic selection' soon sets in—they start eating one another. If a square yard is planted with seeds all of the same kind and another square yard with different seeds, in most cases many more plants will develop in the second case, for the demands of different plants are different. This probably accounts for the practice of sowing wheat.

² *Organic Evolution*, by R. S. Lull, p. 103.

and gram together.

Man is part of organic nature and is subject to the law of over-production.

The population of Germany increased from 35·4 millions in 1850 to 64·9 millions in 1910, the annual rate of increase being 1·019 per cent. In the same period the population of England and Wales increased from 18·0 millions to 36·1 millions, and of Russia from 61·0 millions to 130·8 millions. The annual rate of increase during 60 years in England and Wales was 1·17 per cent and in Russia 1·28 per cent.

The population of India increased by 10·6 per cent between 1921 and 1931, and this rate of increase has been more than maintained in the past decade. Our normal rate of increase is thus a little more than 1 per cent per annum.

Increasing at the rate of 1 per cent per annum our population will double every 70 years.

Assume now that population is increasing steadily at the rate of 1 per cent per annum in India and Russia. Russia would reach a total of 2,000,000,000 (world population in 1931) in 255 years, and India in 175 years.

→ The entire population of the world living in India alone! Is it conceivable? No. The rate of growth must slow down long before the existing population has doubled.

2. THE MALTHUSIAN LAW

In Book II, Chapter 13 of his *Essay on Population* Malthus thus summed up his conclusions regarding the growth of numbers:

"The increase of numbers is necessarily limited by the means of subsistence.

"Population invariably increases when the means of subsistence increase, unless prevented by powerful and obvious checks.

"These checks, and the checks which keep the population down to the level of the means of subsistence, are moral restraint, vice and misery."

→ More clearly the checks are of two kinds. Nature applies *positive* checks in the form of famine, disease and war. The *preventive* checks are applied by man in the form

of late marriages and moral restraint.

In recent times the preventive check which has been most successful in countries of Western Europe is limitation of births through the use of contraceptives.

Thomas Robert Malthus (1766—1834) was a clergyman. The first edition of his famous *Essay* appeared in 1798. Malthus suggested the idea of the struggle for existence to Darwin.

Dr. Marshall accepted the Natural Law of Malthus, and gave him 'a place among the founders of historical economics.' Dr. Marshall held that the second and third steps of Malthus's argument, though 'antiquated in form,' were 'still in a great measure valid in substance,' and concluded :

"It remains true that unless the checks on the growth of population in force at the end of the 19th century are on the whole increased (they are certain to change their form in places that are yet imperfectly civilised), it will be impossible for the habits of comfort prevailing in Western Europe to spread themselves over the whole world and maintain themselves for many hundred years."³

The reader may differ. He may point out that the law of over-production cannot have the same meaning in the case of man as in that of plants and the lower animals because 'animals are at most *gatherers* whilst men are *producers*.' That is what Marx's companion Engels maintained.

In fact, during a given period, wealth and income may increase in a country more rapidly than the population. Such was the case in Germany between 1880 and 1910, and in the United States of America between 1849 and 1899.

But Malthus's position is unassailable. For a time wealth and income may increase more rapidly than population, and a country which does not grow its own food may import it from other countries. But in the long run the growth of numbers is bound to be checked by lack of means of subsistence. Not even Russia could maintain her present rate of increase for 200 years. And 200 years is a very short period in the history of a country. We could not

³ *Principles of Economics*, p. 180.

maintain our present rate of growth (1 per cent per annum) even for 70 years. Famine and disease would restrict the growth of numbers.

Or consider the population of the world as a whole. G. H. Knibbs, statistician of the Commonwealth of Australia, has calculated that at an annual rate of increase of 1·159 per cent (which would double the population every 60·15 years), the population in 10,000 years would increase to 22,184 with 46 noughts (10^{46}) after it. Either the population of the world has in the past not increased at this rate or enormous numbers of human beings have been blotted out by catastrophies of various kinds from time to time.⁴ The latter hypothesis seems more probable. Knibbs has also calculated the time population would require to overtake food supply assuming that initially food supply is in excess of the needs of population:—

<i>Number of times food supply exceeds the needs of population</i>	<i>Number of years before population, increasing at 1 per cent per annum, overtakes food supply</i>
2	... 125·6
4	... 233·7
8	... 331·5
16	... 422·9

Assuming that in any country, or the world as a whole, food supply is initially 16 times in excess of the needs of the population, and that it is increasing in the arithmetic ratio (2, 4, 6, 8, 10, etc.), then population, increasing at the rate of 1 per cent annually, or doubling at the end of every 70 years, would overtake food supply in 422·9 years.⁵

⁴ Appendix A, Vol. I, of the *Census of the Commonwealth of Australia*, p. 32.

⁵ Malthus was wrong in imagining a state of affairs in which population would far exceed the means of subsistence. Taking the population of England in his time at 7 millions, he computed that, doubling every 25 years, at the end of a century the population would be 112 millions and the means of subsistence equal to the support of 35 millions, which would leave a population of 77 millions totally unprovided for. Malthus's 'nightmare of population' was imaginary in the sense that scarcity of means of subsistence would check the growth of numbers long before a disparity between population and food supply such as he supposed could

Knibbs says: "It is not improbable that the rate of the last quinquennium (1'159 per cent per annum in 1906-1911)

appear. Population tends to increase geometrically but actually it does not, on account of the limitation of food supply.

A mathematical formula for the law of population growth was first evolved a hundred years ago by a French mathematician Verhulst and, later, independently by Professors Pearl and Reed of the John Hopkins University, Baltimore (see *Studies in Human Biology*, by Raymond Pearl (1924), Part IV and the Presidential Address of Mr. G. Udney Yule delivered to the Royal Statistical Society, November 18, 1924, and printed in the *Journal of the Society* for January, 1925).

It was a paper by Quetelet (Belgian astronomer and meteorologist, 1796—1874) which set Verhulst thinking. In this paper Quetelet said:

".....A serious examination of the question has proved to me that the theory of population can be reduced to the two following principles, which I regard as valuable in analysing the growth of population and the causes which influence it:

"Population tends to increase in the geometric ratio.

"The resistance, or the sum of the obstacles to its growth, other things being equal, is equal to the square of the velocity with which the population tends to increase.....

"Thus when a population can increase freely and without obstacles, it increases in the geometric ratio; if the growth is taking place in the midst of obstacles of all kinds which tend to check it, and which act in a uniform manner, that is to say, if there is no change in social conditions, the population does not increase in an indefinite manner, but tends to become more and more stationary."

Quetelet gave no formula.

According to Sir Udney Yule, the principles formulated by Quetelet 'do not suggest that the population would ultimately attain a limiting value, but rather a limiting annual increment, just as a body falling through a resisting medium tends to attain a limiting velocity.' This comparison of a growing population with a falling body formed the basis of Verhulst's formula. He wrote: "The results of this comparison agree in a satisfactory manner with statistical data and with those that I have obtained by means of my formulæ, when one assumes an indefinitely increasing density of the strata crossed" [by a falling body].

The law of population of Verhulst and Pearl does not contradict the Malthusian theory. It only shows that after a period of rapid increase the rate of growth slows down, or the growth of numbers encounters increasing resistance, like a body falling through a resisting medium.

The speed of a falling meteor ranges from 10 to 60 miles a second, but on entering the earth's atmosphere the meteor is slowed down by the resistance of the air, so much so that some meteors have been known to strike the surface of a frozen lake without breaking it.

The form of the curve representing the law of population growth according to Verhulst and Pearl is shown by Fig. 13 on p. 59 ante.

will not be long maintained; and it is certain that however great human genius or effort may be in enlarging the world's food supplies, that rate cannot possibly be maintained for many centuries. The contention of Malthus is thus placed beyond question."⁶

3. OVER-POPULATION AND THE FORM OF ECONOMY

Malthus's Natural Law of over-population is independent of the form of economy. The tendency to over-population would exist as much under a socialist as under a capitalist system.

Marx condemned the Malthusian theory as a partisan doctrine. Malthus, he said, was a servant of the bourgeoisie. The bourgeoisie was really responsible for over-population and the miserable condition of the working classes. The object of Malthus was to shift the blame to nature, or rather to the working classes themselves. Why did they multiply so fast?

Marx has his own theory of over-population, which purports to show that over-population is a by-product of capitalism.

In a capitalist economy there is growing concentration of capital in fewer and fewer hands as accumulation proceeds. There are two constituents of capital, which Marx called (a) 'fixed' or constant capital, and (b) variable capital. By variable capital Marx means that portion of the total capital which is paid to labour as wages; all other capital is 'fixed' or constant capital. As production expands, the proportion of variable to fixed capital changes. Social wealth increases, but the proportion of wealth going to labour progressively diminishes. As more and more capital is invested in industries, the proportion of fixed or constant capital to variable capital progressively rises. Suppose the proportion of fixed to variable capital in the beginning was 1 : 1. With the development of capitalism it becomes 2 : 1, 3 : 1, 4 : 1, 5 : 1, 7 : 1, etc., so that as

⁶ Appendix A, Vol. I, of the *Census of the Commonwealth of Australia*, p. 33.

capital grows, instead of $\frac{1}{2}$ of its total value only $\frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}$, etc., is transformed into labour-power, and $\frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \frac{5}{6}$, etc., into means of production. Variable capital may increase in the absolute sense, but what we are concerned with is its proportion to constant capital, which sinks continually. Suppose variable capital increases from 1 crore to $1\frac{1}{2}$ crores. But if total capital has increased from 2 crores to 6 crores, the proportion of variable to total capital has fallen from 1 : 1 to $\frac{1}{3}$: 1. Marx says :

"This accelerated relative diminution of the variable constituent, that goes along with the accelerated increase of the total capital, and moves more rapidly than this increase, takes the inverse form, at the other pole, of the apparently absolute increase of the labouring population, an increase always moving more rapidly than that of the variable capital or the means of employment. But in fact it is capitalist accumulation itself that constantly produces, and produces in the direct ratio of its own energy and extent, a relatively abundant population of labourers, i.e., a population of greater extent than suffices for the average needs of the self-expression of capital, and therefore a surplus population."¹

Surplus population thus appears as a result of the progressive fall in the proportion of variable to constant capital. Marx regards this law of population as peculiar to the capitalist mode of production. "An abstract law of population," wrote Marx, "exists for plants and animals only, and only in so far as man has not interfered with them."²

There is the strongest contrast between Malthus and Marx—the one regarding over-population as an inevitable natural phenomenon, unless preventive checks are applied, and the other attributing over-population to a form of economy. Which of the two was right?

Let us study the situation in a heavily over-populated country like Japan. Japan is a mountainous country, and only 15·6 per cent of the area of the country is arable. The population of Japan is over 69 millions and it is increasing at the rate of 1 per cent per annum. Japan's economy is semi-fascist. Suppose class-war is vigorously preached in Japan so that Japanese unity is destroyed, and the proletariat, annihilating the bourgeoisie, seizes power. A socialist

¹ *Capital*, Vol. I, Kerr ed., p. 691.

² *Ibid.*, p. 693.

regime is established in Japan. Will that solve the problem of over-population?

A change of economy will not turn the mountainous regions of Japan into arable land. Vague talk of immense increase in productive resources under socialism solves no real difficulties. There is a definite limit to the expansion of food supply from a given area, as we have seen (p. 193 *ante*). A well-known Japanese writer, Lt.-Commander Tota Ishimaru says :

"Japan's population is increasing at the rate of about 700,000 a year. Unless she were made to adopt a compulsory system of birth-control, or were given the colonies and the raw materials and capital that she lacks, there would be another and possibly a world war within a few years' time. Compulsory birth-control is easier said than done, and if Japan were driven out of Manchuria, Korea and Saghalien, it is as clear as day that, with her population and her insufficient resources, it would not be long before she had to draw her sword and stand up to fight for life."⁹

It has to be recognised that the resources of a country in the matter of food and raw materials may be inadequate, and when this is the case, the danger of over-population, in the absence of preventive checks, remains.

Under socialism, conceivably, the growth of variable capital in the Marxian sense would keep pace with that of constant capital. There would be no unemployment, as investment would be controlled, and there would be no accumulation of capital in the hands of a small class. But the total amount of wealth produced is ultimately dependent on factors which are not completely under human control. The law of diminishing returns cannot be held in check for ever.

Our case is similar. The problem of Indian poverty is insoluble unless the growth of numbers is checked. Suppose we nationalise all land. That would not increase the amount of land per cultivator. There is scope for increasing the yield of crops, but not to an indefinite extent.

⁹ *Japan Must Fight Britain*, p. 276.

What is true of individual countries is true of the world as a whole. Unless birth-control was widely and compulsorily practised throughout the world, population, even in a world socialist economy, would soon begin to press against the means of subsistence. In the absence of preventive checks, positive checks would come into operation and cut down the growth of numbers.

The whole idea of a world socialist economy under the direction of a world government, is utopia. Natural resources at the command of different peoples, possibilities of expansion open to each nation, and national standards of living are different; further, differences of race, religion, culture and manner of life, divide one nation from another. Immigration laws alone show how tenaciously workers in the more prosperous countries cling to their higher standard of living, and how unwilling they are to sacrifice their well-being for the sake of their less fortunate comrades in other countries.

4. INDIA AND THE MALTHUSIAN LAW

That the Malthusian law is in operation in India is shown by the peculiar movement of our population.

<i>Period</i>	<i>Increase % in population</i>
1872-1881	... 1'1
1881-1891	... 9'1
1891-1900	... 1'4
1901-1911	... 6'3
1911-1921	... 1'2
1921-1931	... 10'6

Our rate of increase between 1872 and 1931 was irregular, rapid growth of numbers in one decade being followed by exceptional mortality in the following decade, which lowered the rate of increase. Our birth and death rates are high; the rate of infant mortality, particularly in big towns, is appalling; marriage is universal; the age of marriage is low; there is a deficiency of females in the total population; and the average duration of life is comparatively small. Further, the rapid growth

of numbers during the past two decades has, in almost every province, increased the pressure of population on the soil, and the progress of agriculture in foreign countries has, by causing exports to shrink, brought about a heavy fall in agricultural income. Who can doubt that under existing conditions India is over-populated? We cannot long maintain our present rate of increase and there are good reasons to fear that 1941-51 may bring nature's checks, which were in abeyance during the last decade, strongly into operation.

5. POPULATION OF WESTERN EUROPE

For a long time the population of France has been practically stationary, and the birth-rate has been falling for sometime in the countries of Western Europe. The causes of the decline in birth-rate may be thus summarised.

(1) Relations between the sexes have altered and the common view of sexual morality has changed.

(2) The rise in the standard of living, as we have already explained, leads to the limitation of births. "Man," says Brentano (a leading German economist), "ceases to produce children when increase in their number procures less satisfaction than other pleasures of life which he would have to do without otherwise."¹⁰

(3) The decline in the death-rate increases the proportion of men of higher ages in the total population, which must tend to restrict the chances of promotion of younger men. The decline in the death-rate thus indirectly prevents the number of marriages and the size of the family from increasing too rapidly.

(4) The rate of infant mortality has gone down considerably in the progressive countries of Europe. Parents wanting two or three children do not bring more into the world, knowing that the children born will live.

Other causes are the emancipation of women, declining influence of the Church, and urbanisation.

¹⁰ Quoted by Dr. R. V. Ungern-Sternberg in *Die Ursachen des Geburtenrueckganges in Europaeischen Kulturkreis*, p. 51. (Berlin, 1932).

The decline in the birth-rate in Western Europe does not falsify Malthus.

In India, as in Japan, birth-control is easier said than done, but there is no other way of escaping the operation of positive checks. *Brahmcharya* (moral restraint) has been preached in India for several thousand years, with results that we see.

6. UNEMPLOYMENT

Unemployment may be voluntary or involuntary. If I do not choose to work, I remain without a job for causes for which I alone am responsible. Here we are concerned with involuntary employment. A famine causes unemployment on a very large scale in an agricultural country. Unemployment in industrial countries is chronic. What are the causes of involuntary unemployment?

A worker may be unemployable on account of physical, mental or moral defects. Such defects are called subjective causes of unemployment, as they relate to the person of the worker.

The chief objective causes of unemployment are: (1) trade depressions, (2) industrial changes, (3) seasonal demand or supply, (4) system of casual labour, and (5) the social time-lag.

(1) We have already discussed trade depressions. They are inevitable under a system of unregulated competition. The reader knows the rôle of over-investment and over-activity in capital-goods industries in bringing about a crisis. It may be legitimately argued that over-investment is due to the concentration of wealth in the hands of a small class under capitalism. While productive power increases rapidly, consumption is restricted by gross inequalities in the distribution of wealth. It is, therefore, not surprising that from time to time production is found to exceed effective demand, stocks accumulate, prices fall, and a general process of liquidation sets in which spells unemployment for millions of people. One may agree with Marx that an 'industrial reserve army' is a necessary appendage of capitalism. When Marx discusses the fall in the proportion of

variable to constant capital with the growth of accumulation, he is explaining unemployment in a capitalist society ; he is not refuting Malthus.

Unemployment in trade depressions is due to the inherent defects of the capitalist system, or of a regime of free competition.

(2) By industrial changes we mean the invention of new methods and processes. As a rule methods of production change slowly, so that large masses of workmen are not thrown out of employment at the same time. But when the whole basis of industry is changing, *e.g.*, from hand-powers to machines, there is much unemployment and suffering in the transition period.

Ordinarily some industries decline, and others grow up ; some contract, on account of changes in the conditions of demand or supply, while others expand. Such industrial rearrangements generally take place without undue friction. A contracting industry loses workers, who find employment in new or expanding industries. If all industries are contracting at the same time, the cause is a trade-depression.

(3) Seasonal demand or supply creates seasonal unemployment. Sugar and ice factories, for example, do not work throughout the year. The demand for ice and the production of sugar are governed by the seasons. Employment in agriculture is seasonal. The cultivator is fully employed when crops are to be sown and harvested, and partly employed during the rest of the year.

(4) Many jobs are casual, or not permanent. Casual workers, having finished one job, must seek another.

(5) A period necessarily intervenes between losing one job and finding another. This is due to the social time-lag. The explanation of the 'lag' is found in the fact that the worker lacks information about the employer who may want him, and the employer is not in contact with the disengaged workers who will suit him. Thus, at the same time, workers may complain of unemployment and employers of shortage of labour. It is rarely that a worker who loses a job one day finds another waiting for him the next day.

Remedies.—Labour or employment exchanges, which we have mentioned before, bring workers and employers into

touch with one another, and thus help to reduce the social time-lag. In a period of good trade the period of the lag is shorter than in a time of acute depression.

Labour exchanges can also help to reduce seasonal unemployment. Seasonal occupations may be so combined, or dove-tailed, as to provide fairly continuous employment. 'Decasualisation' of labour is a matter of considerable difficulty. When the supply of casual labour is in excess of the maximum demand, there must be unemployment. Again, when the amount of work to be done is not fixed, but fluctuates considerably from time to time, regular employment cannot be provided. To mitigate distress among casual workers, it has been suggested that the employers should pay aggregate wages to the labour union concerned which, with further help in the form of subsidies from government or other sources, should provide regular wages or maintenance for all workers coming under the scheme.

Finally there remain causes connected with the capitalist system itself.

Under capitalism production is without a plan. In a planned system there need be no unemployment. It is admitted that under State capitalism and State-controlled capitalism there is no unemployment.

Something, however, can be done to reduce unemployment even in a capitalist economy. But action has to be taken by the State, or public authorities.

Public authorities, both national and local, are large consumers of commodities of various kinds and large employers of labour. It has been suggested that they should hold in reserve a considerable volume of works whose execution may be undertaken in times of depression. Further, a National Employment and Development Board may be created with the duty of preparing plans for the development of national resources. The Board is to be financed by Government. The Board will conserve its resources for periods of bad trade. It will be comparatively inactive when trade is good, but when the trade demand for labour declines, it will begin the execution of a prepared plan or plans for improving a country's road system, or railway system, or irrigation works, or harbour and dock

facilities, thus creating a demand for labour on a large scale.

7. SOCIAL INSURANCE

★ The unemployed in India, whether educated or uneducated, are left to shift for themselves. That is not so in European countries.

Insurance against unemployment is part of social insurance. Social insurance is the legal right of the workman to a certain sum of money, or goods or services in kind, as compensation in certain emergencies. We may here consider the more important forms of social insurance in Great Britain.

★ *Unemployment Insurance*—The first National Insurance Act of 1911 provided for insurance against unemployment in certain selected trades. The Act of 1920 brought into all persons of the age of sixteen and upwards employed under a contract of service, excepting domestic servants, agricultural workers and non-manual workers employed at a rate of remuneration exceeding £250 a year. Since then the scheme has been extended to include
★ persons in agricultural occupations and certain classes of domestic servants; the minimum age of entry into Unemployment Insurance has been lowered from 16 years to the age, not being less than 14 years, at which the juvenile is no longer required by law to attend school; persons aged 65 and upwards have ceased to be insurable.

The total number of insured persons in 1938 was over 14 millions.

The scheme is contributory, or it exacts contributions both from the employer and the employee. These contributions, together with the amount contributed by the State, are paid into an Unemployment Fund out of which all unemployment benefits are paid and the administrative expenses met.

The employer contributes a little more than the employee.

★ An insured workman is entitled to unemployment benefits when he is able-bodied, efficient and, though willing to work in his own trade at the current rates of pay, is unable to find employment because of lack of work.

Health Insurance.—This is also a contributory scheme, both the employer and the employee being required to contribute to the National Health Insurance Fund. In the case of male workers, the employer and the employee make equal contributions ; in the case of women workers, the employer pays a little more. The State adds one-seventh in the case of men and one-fifth in the case of women to the cost of the Health Insurance Scheme. The normal benefits provided under the scheme are the following :—

(a) Weekly benefit of a fixed sum of money for not more than 26 weeks as sick benefit when a worker is incapacitated from engaging in gainful employment ; (b) a disablement or invalidity benefit after the twenty-sixth week so long as the beneficiary is incapable of gainful employment ; (c) a maternity benefit to the wife of an insured workman, which is increased when she is herself an insured person ; (d) provision for medical benefits, which include medical treatment, the provision of medicines and of approved medical and surgical appliances.

Health Insurance is compulsory on all manual workers between the ages of 14 and 65 and non-manual workers with incomes under £250 who have not claimed the right of exemption.

Old Age Pensions.—The Old Age Pensions Scheme, first introduced into Great Britain by the Act of 1908, provides for the payment of pensions to all persons who have reached seventy years of age, and who have been British subjects for at least ten years. This scheme is non-contributory in character, the British Government meeting the entire cost of the scheme and its administration from national taxation.

No one is eligible for the pension who has an income of £50 a year or over. The amount of the pension varies with the need of the applicant, but in no case does it exceed 10s. a week.

Widows' and Orphans' Pensions Scheme.—This is a contributory scheme devised in 1925. Both the employer and the employee contribute, and the State adds its own quota. The pensions are payable to the widows and children of men who, being under the age of 70 on 4th January 1926, when the Contributory Pensions Scheme came into force, died on

or after that date. The pension is granted subject to the satisfaction of certain conditions as to insurance and the number of contributions paid.

The widow receives a pension of 10s. a week together with 5s. for the first child and 3s. for each of the others. The new scheme has been linked together with the old so as to provide old age pensions of 10s. a week at 65 instead of at 70 to all insured men and women without enquiring into their means. Instead of waiting till 70, an insured workman in Great Britain may now draw his weekly pension of 10s. a week for the rest of his life on reaching the age of 65, whatever other resources he may possess and whether he gives up work or not.

Poor relief is granted to the unemployed able-bodied but destitute persons, vagrants and others. The cost of poor relief is met principally from local rates. It amounted to over £44 millions in 1937.

The total annual expenditure on account of social insurance in the United Kingdom exceeds £200 millions, or Rs. 266 crores.

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8. Unemployment in India

There is a note every month in the *Bombay Labour Gazette* on the 'employment situation' in that province. The issue for January, 1941, states: "The average absenteeism in the textile industry in these centres amounted to 7.50 per cent as against 7.58 per cent in the previous month."

The statistics of absenteeism in the textile industry in the Bombay province are compiled from the returns made by the mills in five important textile centres of the province.

That is all the information we possess about the 'employment situation.' It is not much. The percentage of absenteeism is not the percentage of unemployment. An absentee is not necessarily unemployed.

In the absence of unemployment statistics we cannot form an idea of industrial unemployment in this country. Probably the amount of this unemployment is negligible. The years of unparalleled depression for agriculture have been marked by steady industrial progress.

We may also remember that organised industries employ less than one per cent of the population.

There is real unemployment among the educated classes and cottage workers.

The causes of educated unemployment are well known. The aim of education was to produce a class of 'interpreters.' The system of education, in its very inception, wrote a Director of Public Instruction, Punjab, "was moulded with the special object of preparing boys for external examinations"; the object was the training of boys "for clerical vocations which are now proclaimed to be over-stocked and which offer insufficient avenues of employment to the large throng of applicants."¹¹

Government service cannot absorb all the clerks produced by schools and colleges annually. The second Punjab Unemployment Committee (1937) estimated the number of the educated unemployed in the Punjab at 150,000. The total number of Government servants, excluding menials, is 76,755. The number of menials does not exceed 24,000, so that a total of 1 lakh of persons are employed by the Government. The total salary bill of public servants in the Punjab amounts to over Rs. 4½ crores, or 42 per cent of the provincial revenues. 'Therefore,' concluded the Punjab Committee, 'there is very little scope in Government service for reducing the incidence of unemployment.'¹²

The situation in other provinces is similar. Everywhere the supply of educated young men exceeds the demand for them. As a consequence wages have fallen heavily, and a considerable proportion of young men, after completing their education, find no jobs at all. Nepotism and communal and caste considerations in the selection of candidates for Government service are further causes of discontent.

The educated unemployed cannot be settled on the land. There is not enough land for professional agriculturists, and it is doubtful if an average graduate would make a good cultivator. Colonisation schemes are of little use for those who have no connection with the land.

¹¹ Report of the first Punjab Committee on Unemployment, p. xi.

¹² Report of the second Punjab Committee on Unemployment, p. 48.

In every province attempts are being made to discover means of livelihood for educated young men in subsidiary industries. Some of these industries are: fruit-growing, dairy farming, market gardening, floriculture, sericulture, poultry rearing, canning, pisciculture, lac cultivation, spinning and weaving, carpet-making, clay-modelling, rope-making, pottery and cattle-breeding.

In regard to cottage industries two things have to be remembered: (1) educated young men will have to compete with trained men who are already in the profession, and (2) cottage industries are fighting a losing battle with machines.

Unemployment in Agriculture.—The problem of agriculture is not unemployment but increase in the pressure of population on the soil:

The peasant enjoys a certain amount of leisure, though in most cases it is not excessive. When the present writer stated in a Kisan school that peasants had nothing to do for several months in the year, strong exception was taken to his statement. The class maintained hotly that a peasant had always something or other to do in connection with the crops. Assuming that the greater number of cultivators are completely idle for two to four months in the year, we must recognise the right of the agriculturist to a holiday, which has been conceded in the case of factory workers and, lately, shop-assistants. A weekly day of rest means 52 holidays in a year. The work of the peasant is not less arduous than that of the factory worker and, in the busy season, the peasant has to work almost incessantly, without rest.

Still the peasant might utilise his spare time to add to his income. The question was discussed in all its aspects by the Indian Agricultural Commission of 1928. Briefly, there are three sources of income. In his spare time the peasant may work in industries of the ordinary factory type located in rural areas; he may find occupation in village and domestic industries; and he may sell his labour during the period when there is no work to be done on his holding.

Rural industries of the factory type are rice-hulling, oil-crushing, sugar-refining and cotton-ginning. New industries of this type which may be started are implement-making,

paper-making from bamboo-pulp, fruit and vegetable canning and the manufacture of essences and oils from local plants. The Agricultural Commission recommended an examination of the possibilities of extending the oil and bone-crushing industries.

Village and domestic industries have already been mentioned. The Agricultural Commission laid emphasis on stimulating the development of cottage industries by new ideas and by making provision for careful and thorough instruction in modern processes. But they did not attach undue importance to such industries as a means of solving the problem of rural poverty.¹³

¹³ The Report of the Indian Agricultural Commission says: "But even with the aid of new ideas and assistance in training and marketing, the contribution which rural industries can make in reducing the heavy pressure on the land, is infinitesimal and in the nature of things they cannot, as a rule, hope for ever to survive the increasing competition of organised industry. In some cases, we are afraid that an altogether exaggerated importance is attached to their development, whereas sound reflection would show that their possible expansion is strictly limited. The position may be summed up as follows: in villages generally, some increase in demand for local products may be looked for as new ideas of the values of life develop. In villages favourably situated for the establishment of small industries such as rice and sugar mills, cotton ginneries and presses, part of the agricultural population may find seasonal work as unskilled labourers. In the villages, many of the smaller cultivators find employment in carting for their more prosperous neighbours and some may hire out their own labour to them. Where caste prejudices are not a difficulty, a few may find employment as assistants to the local artisans. Near large towns, poultry can be kept or vegetables, fruit and flowers can be cultivated. The women and girls of the family can fill their leisure moments with the spinning of various fibres and also with the making of lace and embroidery,—a cottage industry to which the Madras Department of Industries has paid special attention. In certain areas, lac cultivation and silk can be taken up and, near forests, employment can be obtained by the cultivators in their spare time in various ways. But the possibility of spare-time or subsidiary occupations depends very largely on the location of the village and, as a general principle, it may be laid down that the chief solution of the problems of the cultivator is intensification or diversification of his agriculture. Corporate action for the improvement of his village would, of course, give him something to do; but this awaits the awakening of a public health conscience and the revival of the corporate spirit in the village. To put it briefly, the possibilities of improving the conditions of the rural population by the establishment of rural industries are extremely limited." (p. 575.)

The cultivator already sells his labour. In several parts of the country the cultivator, when he is free, travels considerable distances, often accompanied by his family, to add to his income. Every year there is a considerable migration of agricultural labour from North Bihar and the Orissa Division to rural Bengal and to Calcutta; from the up-land districts of the Madras Presidency to the Kistna and Godavri deltas; in Burma, from Upper to Lower Burma, and from the rural parts of the Bombay Presidency to the mills of Bombay City and Ahmedabad.

9. PLANNING

The Agricultural Commission hoped to find a solution of agricultural problems in the intensification and diversification of agriculture. The Punjab Unemployment Committee have suggested crop-planning.¹⁴

¹⁴ The Report of the Punjab Unemployment Committee (1937) says: "Although much excellent work is being done, we are of opinion that one important branch of work, namely, crop planning is not receiving the attention that it deserves. Questioned on this point Mr. Stewart told us in evidence: "You can do that (crop planning) within limits. The Government of India called a Crop Planning Conference two years ago, but after a very thorough consideration of the subject, the Conference did not make any recommendation as regards any radical change. But sometimes one can do such things as you suggest with particular crops. Take, for instance, the Ludhiana district. The sandy part of it is particularly suitable for growing groundnuts and the cultivator is now getting Rs. 40 to Rs. 50 per acre from this crop when formerly he got practically nothing.' We think that this is not enough. Different tracts of the province are suited for growing particular crops. For instance, the colonies can grow excellent wheat giving a yield of as much as 15 to 20 maunds per acre. Kangra district soil, on the other hand, gives a wheat yield of only 5 to 6 maunds per acre; but here land is particularly suitable for growing potatoes. We suggest the examination of a planned economy by which, for instance, Kangra district should grow only potatoes and colonies grow only wheat and cotton or other crops which particularly flourish there. The requirements of potatoes for wheat and cotton growing areas should be obtained from Kangra and wheat requirements of Kangra should be obtained from the colonies. We think that if such planned economy were developed, it would add materially to the prosperity and welfare of the province, not only by increasing the total crop yield, but by fostering a substantial internal trade. In his evidence before us Khan Bahadur Nawab Muzaffar Khan, late Revenue Member of the Punjab Government, attached considerable importance to this matter." (p. 21.)

In fact there is only one solution of our agricultural and industrial problems, including the problem of the educated unemployed—a planned economy. Planning, to be successful, must be carried out by a State owning all capital, or by a State controlling all capital. India will have to choose between State-capitalism and State-controlled capitalism. There is no third alternative. *Laissez faire* is dead. And even if it is not dead, *laissez faire* and planning do not go together.

The present situation, whether in regard to the educated unemployed, agriculture or cottage industries, is entirely the result of *laissez faire*. Government subsidises education, but whether education enables any one to earn a living or not is the concern of the individual alone. Imports and products of Indian factories have destroyed many cottage industries, and weakened others. Whether cottage workers, who thereby lose their occupation, find employment elsewhere, is largely the affair of cottage workers themselves. The pressure of population on the soil has steadily increased during the past half a century, and the fall of agricultural prices has brought many classes of agricultural workers to the verge of starvation. Apart from agrarian legislation, which has sown the seeds of class-war between the rural and the urban classes, very little has been done to improve the lot of the peasant.

Economic planning should not be misunderstood. It is not patch-work. It must be comprehensive, embracing all fields of economic activity, the whole of production and the whole of distribution.

Economic planning cannot be sectional because economic life is not sectional. It is not possible to plan for industries, leaving agriculture alone, or to plan for agriculture, neglecting industries. The various aspects of economic life are so closely intertwined that a national plan of reconstruction cannot neglect any without deforming the whole structure.

Agricultural planning does not merely mean growing groundnuts in Ludhiana, potatoes in Kangra, or wheat and cotton in the canal colonies. The crop-planning conference, called by the Government of India in 1934 ended with suggestions to the provinces about crops which they might

grow more or less extensively than at present. If that is all the significance of crop-planning, crop-planning means very little.

The chief feature of a plan for agriculture would be the control of production as well as the prices of agricultural produce. This can be attempted only on an all-India basis through the Central Government. If two or three major provinces or Indian States stood aloof, that would wreck the plan.

Conscious, deliberate planning for agriculture and industry would be an enormous undertaking. It implies a change in the whole basis of our economy.

The Plan would provide work for every educated young man. In a country with an almost unlimited scope for industrial development, there should be no educated unemployment.

The Plan would make agriculture remunerative by stabilising agricultural prices at a remunerative level. The pressure on the soil would be appreciably lightened by the rapid industrialisation of the country.

✱ The only sensible way of improving the lot of the cultivator is by making his traditional occupation more profitable. The cultivator is not a weaver, spinner, or bee-keeper. It is a delusion to think that the *charkha* will reduce the pressure of population on the soil.

CHAPTER XXV

INTEREST

Under the Punjab Relief of Indebtedness Act, 1934, courts are empowered to disallow excessive interest, and it is provided that interest shall be deemed excessive if on secured loans it exceeds 12 per cent per annum simple interest, and if on unsecured loans it exceeds $18\frac{3}{4}$ per cent simple interest.

Why is a difference made between secured and unsecured loans? The answer is simple and sufficient—the risk in the case of unsecured loans is greater.

1. GROSS INTEREST

Interest is a payment for the use of capital. But it is a complex payment consisting of several elements.

Interest, as the example given above shows, must include a payment to cover risk of loss. This risk may be of a personal nature, or connected with the trade or industry in which capital will be employed.

Some borrowers are more reliable than others, and some trades are more risky than others. The lender would take into consideration both personal and business risks in fixing the rate of interest. The rate of interest would thus vary from person to person and trade to trade.

Another payment which is included in interest is for the work and worry involved in money-lending. A borrower who will have to be frequently reminded about his obligation, and threatened with legal proceedings before he repays the loan, will have to pay a higher rate of interest than a less troublesome client.

A third payment is for the inconvenience of the investment. When I place Rs. 10,000 at another's disposal for

one year, I am deprived of the use of the sum for that period. If, on the other hand, I could recall a loan whenever I pleased, the investment would be ideally convenient. Loans to bill brokers in the London money market, and call loans by banks in India to one another, are of this nature. The rate of interest on such loans is very low. If a loan were made on the condition that it would be returned at the convenience of the borrower, from the lender's point of view it would be ideally inconvenient.

A fourth element in interest is the reward for 'waiting.' This is called 'net interest.' Older economists used to call it the reward for 'abstinence,' but many moneyed people are able to save a considerable proportion of their income without practising abstinence in the moral sense. 'Waiting' implies postponement of consumption, and no moral excellence, and is, for that reason, to be preferred to 'abstinence.'

The gross rate of interest, therefore, includes other payments besides 'net' interest. When we discuss the influences which determine the rate of interest, it is 'net' interest that we are concerned with. Allowance can be made for the other factors.

2. DEMAND FOR CAPITAL

One may borrow money for productive purposes, or for consumption. In both cases capital is subject to the law of diminishing utility.

Suppose I wish to entertain my friends and borrow money for the purpose. A minimum sum is indispensable, say Rs. 100, without which there will be no feast. To obtain this sum I may be willing to pay 18 per cent interest. Suppose the money-lender was obliging and ready to lend another sum of Rs. 100. My most essential requirements would be met by Rs. 100, but Rs. 200 would enable me to entertain a larger circle of friends and on a better scale, and I may be willing to borrow the second sum of Rs. 100 at 12 per cent. Rs. 300 would mean a grander entertainment still, but the addition to total satisfaction due to the third sum of Rs. 100 would be clearly less than that due to the

second, and I would not offer for it more than, say, 6 per cent.

Similarly if you intended to set up as a small-scale manufacturer of pull-overs or hosiery, you could not do without an initial sum, for which you would be prepared to pay a high rate of interest. Further additions to your capital would enable you to acquire only less indispensable equipment. The marginal utility of capital would fall as the amount of capital placed at your disposal increased.

The marginal utility of capital to different consumption and production borrowers is unequal. But the rate of (net) interest is the same for all borrowers. How is this to be explained?

✓ The rate of interest is not determined by the marginal utility of capital to any one person, but to society as a whole. There is, at any time, a total demand for capital both for production and for consumption, and a given supply of capital. The relation of demand to supply determines the marginal utility of capital, and the market rate of interest measures it. At this rate every one borrows the amount of capital that he needs, whether for production or consumption. In every case the amount of capital borrowed is such that the marginal utility of capital is equal to the rate of interest paid.

1. WHY CAPITAL IS SAVED

A given rate of interest assumes a given relation of the supply to the demand for capital. What are the forces which determine the amount of loanable capital?

The supply of capital depends on two main factors,—the power to save and the will to save.

The power to save.—The power to save depends on income, and it increases as income increases. How much can a man with a monthly income of Rs. 20 save? Little or nothing, but let us assume that he cuts down even necessary expenditure and saves Rs. 2 every month. This is 10 per cent of his income. A man with an income of Rs. 100, spending the same proportion of his income, would save Rs. 10, and one with an income of Rs. 10,000, Rs. 1,000.

But as income rises a greater proportion of income can be saved, as we have seen. The savings, when put in a bank, grow automatically so that the power to save increases, enabling one to save still more. One is reminded of the common saying: زر زر کشد در جہاں گنج گنج—money begets money.

One difference between a rich and a poor country is that in the latter the volume of annual savings is small, and thus the amount of capital available for investment is small too. In rich countries, the scale of incomes being higher, annual savings are large, and these savings, when invested, cause both wealth and income to increase, which further augments savings.

The will to save.—But even when an individual's income is considerable the will to save may be lacking.

Usually most people do not spend all they earn. The motives to save are the following :—

1. To provide for heavy expenditure which is foreseen, e.g., in connection with ceremonies, or special training or education of children.

2. To seize opportunities. One may have political or other ambitions to satisfy. To fight an Assembly election a candidate has sometimes to be prepared to spend tens of thousands of rupees. A business man may require a large sum of money at a time which he cannot foresee to extend his business. One does not know when fortune may be knocking at one's door.

3. To provide for old age. A time comes when one is unable to work. Provision is necessary against the chance of unexpected diminution in income, and expected cessation of income with old age.

4. For the sake of direct gain, or interest.

Saving for the first three objects is not affected by the rate of interest. In fact there would be some saving even if the rate of interest were negative. One has to provide against emergencies of all kinds, and must save a certain proportion of one's income. If you hoarded your savings in your own house, there is risk of loss by theft. You may, therefore, be willing to pay a rate of interest annually to a reliable person who will keep the money safe

for you and make it available to you whenever you wanted it. The rate of interest in this case is negative.

Some saving is involuntary, *e.g.*, when income is much in excess of one's needs. With an income of Rs. 10,000 a month you would be able to live a life of ease and save a considerable proportion of your income.

In exceptional cases savings might even decrease with a rise in the rate of interest. Suppose all that you want is an income of Rs. 2,000 a year in old age. To earn this income at 2 per cent rate of interest you must have Rs. 100,000 in a bank. If the rate of interest rose to 4 per cent, you need save only Rs. 50,000, for Rs. 50,000 at 4 per cent will give you an annual income of Rs. 2,000.

Ordinarily, however, a rise in the rate of interest increases savings, or we can speak of a supply schedule of capital, as of a demand schedule. Demand for capital increases with a fall, and decreases with a rise in the rate of interest; conversely, the supply of capital increases with a rise and decreases with a fall in the rate of interest.

4. DETERMINATION OF THE RATE OF INTEREST

In Fig. 60 we have graphically represented the supply

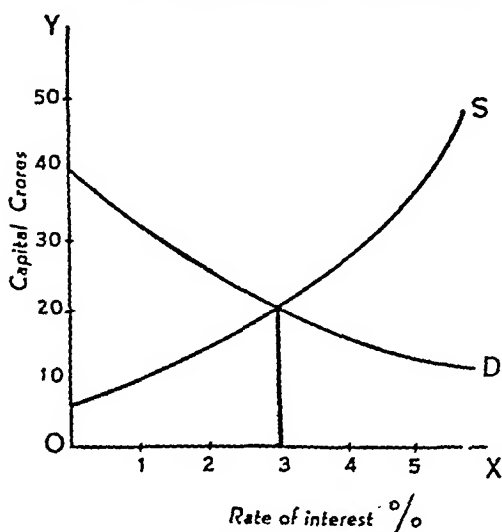


Fig. 60.

and demand for capital. The rate of interest per cent is measured along OX and capital along OY. The curves relate to the supply and demand for capital at a given time. It is seen that when the rate of interest is zero, the demand for capital is 40 crores and supply 6 crores, or demand much exceeds supply; when the rate of interest is 5 per cent, the supply of capital is much in excess of the demand.

Demand and supply are in equilibrium when the rate of interest is 3 per cent. At this rate equal quantities of capital are demanded and supplied.

The supply curve begins at a point above zero, because of savers who save irrespective of the rate of interest.

The rate of interest is a price, and it performs the same function as the price of any commodity, i.e., of equating demand and supply. Given the supply and demand schedules, the rate of interest in our illustration is three per cent. There may be individuals who cannot afford to pay this rate. Their demand would remain unsatisfied. There are many persons who cannot afford the price of a car. Well, they must do without one. The supply of cars being limited, every one cannot have a car. The more limited the supply, the higher is the marginal utility of a commodity (assuming a certain demand), and consequently the higher is the price. The higher the price, the greater is its restrictive effect on demand. Price rises when demand increases, supply remaining the same, or supply decreases, demand remaining the same; in both cases the rise of price performs the function of readjusting supply to demand.

Business men may complain that a three per cent rate of interest is too high. How can the rate of interest be brought down? Action may be taken by Government to increase the supply of cash. This is sometimes done in a time of brisk trade to prevent the rate of interest from rising unduly. Another way is to cut down unproductive consumption and to encourage thrift. Development of thrift increases savings, and if the consumption demand for capital declined, there would be so much more capital available for trade and industry.

The object of the co-operative credit movement is to lessen the need for money-lenders' capital by developing

the peasants' economic resources through thrift.

There is a huge amount of our capital lying barren in the form of gold ornaments, which might be utilised, not for financing imports but for developing the country's productive power. Secondly, there is enormous waste of capital, both in our towns and villages. A National Government might find some money for starting new industries, and providing work for thousands of young men, by taxing unproductive expenditure at a high rate.

5. 'FORCED' AND VOLUNTARY SAVING

In explaining the rate of interest we have taken savings to mean what is saved out of income for motives which have been mentioned. We have noted the dependence of savings on income. A redistribution of income, or any cause which brought about a change in relative incomes, would affect savings and the demand schedule for capital remaining the same, the rate of interest would alter.

New Economics makes a distinction between 'voluntary saving' and 'forced saving.' Voluntary saving is saving in the ordinary sense, or what is saved out of income; the concept of forced saving is connected with an increase in the quantity of money.

Suppose new money is created by government fiat, or there is paper inflation, and all prices go up. Persons with fixed incomes will be forced to curtail their consumption, or to practise 'forced frugality.' From their forced frugality, or the restriction of consumption imposed upon them, an increase in the total savings of the community may result under certain conditions. What are those conditions?

These were clearly stated by Bentham. He starts with a state of affairs in which all hands are fully employed in the most advantageous manner, so that the maximum amount of real wealth is being produced. Then the quantity of money is increased and general prices rise. The rise of prices imposes an income-tax on the incomes of all 'fixed incomists.'

The 'fixed incomists' suffer, and their suffering is not compensated for in any way if the persons who get the new

money use it unproductively. But suppose it is used productively. Then more goods are produced which would tend to lower prices, if this tendency were not negated by the increase in the quantity of money in circulation. The increase of paper money has been the means of greater production—'forced frugality' of 'fixed incomes' is thus compensated for in a certain degree 'by the amount of the addition made to the quantity of sensible wealth—of wealth possessing a value in the way of use.'¹

Bentham insists that an increase in the quantity of money, in order to add to the real wealth of the community, must pass into productive hands. When new money passes from the hands of those who employ it as capital into the hands of persons who use it to add to their unproductive expenditure, it ceases to make any further addition to real wealth.

Bentham did not advocate a thoughtless use of the power of government to increase real wealth in this manner. He wrote :

"By raising money as other money is raised, by taxes (the amount of which is taken by individuals out of their expenditure on the score of maintenance), government has in its power to accelerate, to an unexampled degree, the augmentation of the mass of real wealth. By a proportional sacrifice of present comfort, it may make any addition that it pleases to the mass of future wealth; that is, to the increase of comfort and security. But though it has in its power to do this, it follows not that it ought to exercise this power to compel the community to make this sacrifice."²

Forced Saving reduces real Wealth.—Bentham was mistaken in thinking that 'forced frugality' due to inflation augmented the mass of real wealth. So far from adding to real wealth, forced saving, more often than not, reduces it.

¹ This is abundantly clear from the experiences of Germany during the inflation period (1922-24). These experiences have been carefully examined by a number of competent

¹ Quoted by F. Von Hayek in the *Quarterly Journal of Economics*, November, 1932, p. 125.

² *Ibid.*, 1932, p. 124.

observers, including Dr. Schacht and Professor Bresciani-Turroni.

Inflation in Germany imposed a very considerable amount of forced saving on 'fixed incomists.' Progressive decrease in the purchasing power of money reduced an ever-increasing number of families to the level of the barest existence minimum. Instead of increasing prosperity, there was, in the words of Dr. Schacht, 'growing poverty' (*zunehmende verarmung*).³ It is true that inflation gave a great stimulus to production-goods industries, chiefly iron and coal and, combined with other influences which were at work, encouraged the movement towards industrial concentration. But the chief beneficiaries were the bigger firms. The rapid depreciation of the mark 'created serious embarrassment for the small firms,' who were not in a position to protect themselves against the risk of future depreciation by raising prices or other means.

The increase in business activity, when money is depreciating rapidly, is more apparent than real, so that 'forced saving' does not cause any real addition to the mass of wealth produced. This point cannot be too strongly emphasized.

Dr. Schacht refers to the 'enormous increase in the number of trading firms'⁴ in Germany in those days, and Prof. Turroni speaks of the 'hypertrophy'⁵ of commercial organisation and of the banking system. There was a considerable increase in the number of middlemen. When prices are rising almost hourly, quick profits may be made by intelligent buying and selling. The number of small banks and foreign exchange firms increased. "The increase in banking business," Prof. Turroni explains, "was not the consequence of a more intense economic activity." But work increased on account of speculative buying and selling of shares and foreign exchange. In individual businesses there was an increase in unproductive labour employed in making constant calculations of the

³ *Stabilisierung der Mark*, p. 46.

⁴ *Ibid.*, p. 47.

⁵ *The Economics of Inflation* (1937), p. 215.

value of marks in foreign currencies and *vice versa*.

The Power to work and the Will to work.—'Forced saving,' or rather inflation which is the cause of 'forced saving,' is accompanied by a decline in the intensity of labour. This is for two reasons:—(1) the lowering of the standard of living diminishes the capacity for work, and (2) the will to work declines. There is increase in employment in production-goods industries, but the output falls, (e.g., in the German coal industry).

Inflation suspends the natural selection of firms. Explaining this point Prof. Turrone says that "inflation profoundly altered the distribution of social saving. It is true that at first a certain mass of 'forced saving' was created. But it cannot be said that these savings became available to the most productive firms and to those entrepreneurs who were most able to employ rationally the capital at their disposal. On the contrary, inflation dispensed its favours blindly and often the least meritorious enjoyed them."⁶ It was the cleverest speculator who survived, not the ablest entrepreneur.

Finally 'voluntary saving decreased rapidly.' This is shown by statistics of the savings and deposit banks.

'Forced saving' in Germany in those days was due to the over-issue of paper money by Government. 'Forced saving' may be brought about by the expansion of bank credit. If the increase in the quantity of money is relatively small, 'forced saving' is negligible. If, on the other hand, there is a considerable expansion of bank credit, which causes a heavy fall in the real wages of large masses of workingmen, the total amount of saving may be expected to decrease rather than increase. It should never be forgotten that ultimately labour is the source of all wealth. If 'forced saving' saps the vitality of the worker by lowering his standard of living and weakens his will to work, the source of all saving tends to dry up.

⁶ *The Economics of Inflation* (1937), p. 219.

⁷ *Ibid.*, p. 221.

6. THE AGIO THEORY

We have viewed the rate of interest as a price, and, viewed thus, the explanation of interest is in harmony with that of the prices of commodities. In our discussion of commodity prices we did not ignore the supply factors, but made no attempt to establish a connection between the price of anything and its real cost of production in terms of labour and sacrifice. Money cost of production, as we have seen, is only an expression for the marginal utility of the factors of production in alternative employments. The general principle of scarcity explains all prices, including the price of capital.

Some writers furnish an explanation of interest wholly in terms of real cost. We shall notice two, Boehm-Bawerk and J. M. Keynes.

The Agio theory is associated with the name of Boehm-Bawerk.

Boehm-Bawerk regards interest as a payment demanded by the lender for the loan of goods. The advance is generally made in the form of money. But money is not wanted for its own sake. A peasant borrows money for the purchase of implements, seed and plough-bullocks. Very often grain is borrowed by peasants for seed and for consumption. Even when money is lent, we may think of the loan as having been made in goods, for ultimately the money borrowed will be spent on goods.

A good may be consumed immediately, or its consumption may be postponed. A good used for the satisfaction of a want in the present is a present good; one which will be consumed later is a future good.

Boehm-Bawerk starts with the assumption that there is an agio or premium on present goods as compared with future goods. The saying is well-known: a bird in the hand is worth two in the bush, but in this case there is risk, for the two in the bush may fly away. Boehm-Bawerk's point is that even when there is no risk, present goods are worth more than future goods of like kind and number.

Why? Because we are so constituted. We all discount

the future, though not all at the same rate. In exceptional cases one may attach more value to future than to present goods—as a miser who deprives himself of necessities and comforts in order to accumulate a hoard. At the other extreme we have spendthrifts who live entirely in the present. These exceptions may be ignored. That most of us discount the future is true. A present good is valued more highly than a future good.

When capital is lent, a present good is turned into a future good for the lender, and since he values present goods more highly than future goods, he has to be compensated. The rate of interest measures the premium on present goods. If the present value of a good is Rs. 100, and its estimated value as a future good Rs. 95, Rs. 5 is the rate of interest. The meaning is that Rs. 95 a year hence is equal to Rs. 100 in the present.

The rates at which different lenders discount the future are different, but theoretically we may conceive of the rate of interest as corresponding to the average rate of discounting the future in a community, or the average amount of premium commanded by present goods as compared with future goods.

7. LIQUIDITY PREFERENCE

The view of J. M. Keynes is essentially the same, though it is presented in a different form.

Keynes fixes his attention, not on capital in the form of goods but money. The quantity of money has something to do with the rate of interest, but this is not an essential point of Keynes's theory, for we may assume the quantity of money to be constant, or as given. Keynes defines interest as 'the reward for parting with liquidity for a specified period.'⁸ It is 'a reward for not-hoarding.'⁹

We have seen that one may, under capitalism, hold one's assets in various forms, possessing various degrees of liquidity. The most liquid form of assets is cash. Suppose you

⁸ *The General Theory of Employment, Interest and Money*, p. 167.

⁹ *Ibid.*, p. 182.

have to meet heavy obligations at a time which you cannot determine. You will be obliged to keep a big hoard. Or you may be so constituted that your liquidity preference is high, so that you never go out except with a thousand rupee note in your purse, or never feel comfortable unless you have ten thousand rupees in cash in your house. The amount of your hoard depends on your liquidity preference. When the degree of liquidity preference is low, very little cash will be hoarded. Referring to India Keynes says: "The history of India at all times has provided an example of a country impoverished by a preference for liquidity amounting to so strong a passion that even an enormous and chronic influx of the precious metals has been insufficient to bring down the rate of interest to a level which was compatible with the growth of real wealth."¹⁰

It would give Keynes satisfaction to know that India has started de-hoarding her wealth. In recent years we have exported gold on an unprecedented scale. Our passion for hoarding has grown weaker; it is other countries whose preference for liquidity may now be said to amount to a passion.

Wealth has been hoarded in India since time immemorial. Is it the fault of the people? Where are the banks to which savings may be entrusted? What means of investment were available to the people in past times? When banking facilities are inadequate and means of investment few, what are the people to do except hoard their savings in cash or in the form of ornaments?

Let us leave India. Why is cash held by individuals and firms in European countries? What are the factors which influence liquidity preference in the West? Keynes mentions four 'motives.'

(i) *The Income motive.*—There is usually an interval between the receipt of income and its disbursement. When a person receives his salary on the first day of each month, he must hold a certain amount of cash to meet daily expenditure till the next pay-day.

(ii) *The Business motive.*—There is similarly an interval

¹⁰ *The General Theory of Employment Interest and Money*, p. 337.

between the production and sale of goods, and business men hold cash to bridge the interval. A cabinet-maker, or a factory-owner, has to incur expenses of production, which will be covered only when the goods produced have been sold.

(iii) *The Precautionary motive*.—"To provide for contingencies requiring sudden expenditure and for unforeseen opportunities of advantageous purchases, and also to hold an asset of which the value is fixed in terms of money to meet a subsequent liability fixed in terms of money, are further motives for holding cash."¹¹

So far the 'motives' are the same which we mentioned earlier to explain saving. Of special importance is:

(iv) *The Speculative motive*.—This is influenced by changes in the supply of bank money. When a Central bank purchases bonds ('open market operations'), the supply of cash is increased, the rate of interest falls, and the volume of bank loans expands. The business motive and the precautionary motive are determined by the general course of economic activity and the level of incomes. It is the speculative motive which transmits the effects of a change in the quantity of money.

The quantity of money and the state of liquidity preference between them tell us what the rate of interest is.

If we take the quantity of money as given, the state of liquidity preference would give us the rate of interest. Where the degree of liquidity preference is high, the rate of interest would be high too. Why? Lenders part with liquidity in placing their money at the borrower's disposal, and if they value liquidity highly, they would require a high reward for the sacrifice of liquidity.

The Agio theory may be interpreted in terms of liquidity preference. The lender values present goods more highly than future goods because present goods represent greater liquidity than the same goods placed at the disposal of another for one year. If the loan is for a longer period, the sacrifice of liquidity is greater still. Whether we regard interest as a premium on present goods, or as a reward for

¹¹ *Ibid.*, p. 196

parting with liquidity, we mean very nearly the same thing. And in both cases the rate of interest is determined by the supply factor alone.

The explanation of interest in terms of liquidity preference alone is inadequate.

The state of liquidity preference, or the discounting of future, together with the level of incomes, determines the amount of savings. Given the savings, the rate of interest is determined by the marginal utility of capital. There is inter-action of demand and supply, and, at a certain rate, supply is equal to demand. This is how the rate of interest is determined. No relation of equality can be established between the rate of interest and the sacrifice involved in parting with liquidity, or in 'waiting.'

8. RISE AND FALL OF THE RATE OF INTEREST

The rate of interest rises and falls with the rise or fall in the marginal utility of capital.

In a progressive country the rate of interest would tend to fall with the growth of wealth and income. But inventions increase the demand for capital. New machines have to be made and new factories to be built. If the demand for capital for new investments increased more rapidly than the supply of a new capital, the rate of interest would rise. But inventions often simplify existing processes; a new machine may do the work of two old machines. In the beginning the effect of inventions and technical improvements must be to increase the demand for capital. But they increase productive power, and thus add to national wealth and income. The net result in a progressive community should be a gradual fall in the rate of interest.

Can the rate of interest fall to zero? Only in theory. A zero rate of interest would imply that the marginal utility of capital was zero too. Oranges will become free goods when they are supplied in such abundance that their marginal utility drops to zero. Similarly, we may picture a state of society in which there is such super-abundance of capital for both production and consumption that the marginal utility of capital is *nil*. This means that no

borrower cares to borrow an additional unit of money for purposes of consumption at a positive rate of interest, since the marginal utility of capital to him is *nil*. And every producer is so well supplied with capital that a further unit of capital would have productivity zero. In brief, the community has a super-abundance of all objects of human desire. Except under such conditions capital will always command a positive rate of interest. For if the community did not have an adequate supply of motor-cars or radio-sets, capital invested in their manufacture would have a marginal productivity above zero. And whenever and wherever capital has productivity above zero, the rate of interest must be above zero too.

The rate of interest rises during a war and it is high in the years immediately following a war. The marginal utility of capital rises during a war on account of the enormous increase in State expenditure. Attempts are made to increase the supply of capital by appealing to the people to exercise the utmost economy and to save for victory. But there is a physical limit to saving.

When the ravages of a great war have to be repaired, ships lost to be replaced, ruined cities to be rebuilt, industrial equipment to be renewed, the rate of interest rises to equate demand to the reduced supply. Gradually, as the output of peace-time goods and services expands, national income and national savings increase, lowering the marginal utility of capital and the rate of interest.

9. SHORT-TERM AND LONG-TERM RATES OF INTEREST

The long-term rate of interest may be judged with approximate accuracy by the yield of first-class Government bonds, called gilt-edged securities. The short-term rate of interest is fairly well represented by the rate of interest paid on new stock exchange call loans.

The variations in the average rate of interest on call loans in New York City between 1925 and 1933 are shown by the following figures :—

Average call rate in December per cent.

1925	5'32	1930	2'27
1926	5'16	1931	2'73
1927	4'43	1932	1'00
1928	8'86	1933	0'94
1929	4'88		

Before the stock-exchange crisis of 1929 the call rate was high. It rose to its peak, 9'80, in March, 1929. By the end of the same year it had fallen by 50 per cent.

A rise or fall in the short-term rate affects the long-term rate. When short-term rates are low, capital can be borrowed on cheap terms for the purchase of bonds. The demand for bonds thus increases and their prices go up. In consequence of the rise in the price of bonds, the long rate falls, for the higher the price paid for a bond, the lower is its percentage yield. Thus a fall in the short-rate also tends to lower the long-term rate of interest, or the two tend to move together.

The rise in the call-rate in New York in 1928-29 was due to increase in the demand for loans for stock exchange speculation. When the short rate rises, less capital is borrowed, the demand for bonds decreases, their prices fall, and the long rate rises. Again the short and the long rate move together.

The demand for bonds, and their prices and yields are affected by political factors, e.g., threatened outbreak of war, or, when war has broken out, by the outcome of fighting, fear of defeat and hope of victory. Suppose the short rate is low. Theoretically the long rate would also tend to move down, for increase in the demand for bonds would raise their prices, thus lowering the long rate. But if there are reasons to fear that prices of bonds will fall, investors will be unwilling to buy them. Thus the price of bonds may not rise, or the long rate may remain high while the short rate is low.

Generally the long rate is higher than the short rate, but when there is a considerable gap between the two, Government may lower the long rate by the 'conversion' of loans carrying a high rate of interest, which has been mentioned before. Government may also borrow for short periods,

which would tend to raise the short rate, thus narrowing the gap between long and short rates.

Governments issue both short-dated and long-dated securities. The shorter the period of redemption the lower, generally speaking, would be the yield per cent of short-dated securities as compared with securities redeemable at a later date. But sometimes the difference is reduced by special causes. An example is given below :—

*Average Daily Price of Government Securities
and Yield thereon.**

	3 per cent. Bonds 1941		4 per cent. Loan 1960-70	
	Price Rs. A.	Yield %	Price Rs. A.	Yield %
April, 1939 ...	101 9	2·33	109 1	3·38
September, 1939 ...	98 12	3·65	97 5	4·16
March, 1940 ...	101 12	1·81	108 1	3·45
January, 1941 ...	101 6	0·91	108 0	3·44

* Yield to redemption. Source: Statistical Summary issued by the Reserve Bank of India, for February, 1941.

How yield to redemption is calculated is explained in the appendix to this chapter. Here we may note (i) the dependence of the yield on price, and (ii) the effect of the outbreak of war in September 1939 in increasing the yield of 3 per cent 1941 bonds so that the margin between the yield of the short- and the long-dated security was considerably reduced. In January, 1941, the yield of 1941 bonds (redeemable in September, 1941) fell to 0·91 per cent, while that of the 1960-70 Loan was 3·44 per cent.

10. VALUE OF FIXED CAPITAL

Suppose the gross rate of interest, at which the sugar industry is able to borrow, is 12 per cent. Other industries may be able to borrow at a cheaper rate, or may have to pay more—the gross rate of interest varies from industry to industry according to risk and other factors. It follows that fixed capital used in the sugar industry would yield about 12 per cent.

No one wants a machine for its own sake. The value of a machine depends on the value of its products. If sugar machinery yielded, say, 20 per cent or more, as was the case

when the first sugar factories were set up in India on the grant of protection (1932), more factories would be built and more sugar would be produced. The price of sugar would fall, which would lower the yield of sugar machinery, until it became equal to the rate of interest. If the yield of sugar machinery was less than 12 per cent, gradually the sugar industry would shrink, which would reduce the quantity of sugar produced. Thus the price of sugar would rise, until the yield of fixed capital employed in the industry was equal to the rate of interest.

Let us assume that, at any given time, the yield of sugar machinery is equal to the market rate of interest. If better machinery came into use whose yield was 50 per cent greater, the capital value of old machinery would fall by 50 per cent, though its efficiency remained unimpaired. Why?

The capital value of old machinery would be determined by the ratio between its efficiency and that of the new machines. If new machines yield 12 per cent, the yield of old machines cannot be more than 6 per cent. There would be a fifty per cent fall in the capital value of old machines.

Old machines suffer this fall in value not on account of wear and tear but because more efficient machines have come into use.

When a new and better model of a type-writing machine, say No. 12, is placed on the market, the price of No. 11 machines, the old model, falls, even though the old machine may be brand new, or may not have been used at all.

Similarly when a new model of a car, giving more mileage per gallon of petrol, comes on the market, old models, whose efficiency is less, depreciate. The fall in value would be in the ratio of the efficiency of an old model to that of the new.

11. THE NECESSITY OF INTEREST

M. Grinko, People's Commissar of Finance of the U.S.S.R., in the course of a speech explaining the financial programme of the U.S.S.R. for 1936, said:

"I have already reported twice at Sessions of the Central Executive Committee on that specific method of improving the service given to

loan-bondholders which has been practised ever since 1933 in accordance with the decision of the Council of People's Commissars of the U.S.S.R., and which is known as "Bondholders' and Depositors' Day." This peculiar day lasts two or three months, during which the State Loans Aid Commissions verify the bonds of holders in town and country, ascertain what winnings and interest have not been claimed, and help the bondholders to secure the returns to which they are entitled as creditors of the state. We carried out a similar campaign in 1935. We verified the bonds of 45,000,000 holders, that is, of almost every bondholder in our vast country, and paid out a sum of over 310,000,000 roubles in unclaimed winnings, interest and redeemed bonds."¹²

There are bondholders in the Soviet Union who receive interest on loans made to the State. Between 1933 and 1935 the returns received by the population on loans increased from 559,000,000 roubles to 1,300,000,000 roubles.

M. Grinko also referred to 'a considerable increase in the savings deposits of the population.' What rate of interest is allowed by Soviet banks to depositors is not known.

Interest is a necessary payment. Otherwise interest has no place in a socialist economy.

By offering a return on loans, the Soviet Government encourages its subjects to save.¹³ If this incentive to saving

¹² *Soviet Union*, 1936 (Lawrence and Wishart), pp. 498-99.

¹³ The public debt of the U.S.S.R. increased by about fifteen times between 1927 and 1933. Up to 1936 about 45 million Soviet citizens had subscribed State loans to the amount of nearly 10,500 million roubles. The proportion between loans raised with the population and total loans increased from 41 per cent. in 1927 to 61 per cent. in 1933. The loans are utilised exclusively for financing the industrial development of the country. They are of secondary importance for this purpose, the main sources for financing national economy being budget receipts and the accumulation of capital in State enterprises.

Three loans were issued under the first five-year plan, and also three loans under the second five-year plan. These loans are divided into two issues, premium-bearing and interest-bearing bonds. The premium-bearing bonds are drawn with premiums and redeemable within a period of ten years; the interest-bearing bonds are redeemable during the second five years of the ten-year term, by one-fifth each year. Interest is payable once a year at the rate of 8 or 10 per cent.

In 1936 a new internal loan of the second five-year plan was floated to the amount of 4,000 million roubles. The loan is divided into premium-bearing and interest-bearing bonds. Premiums are fixed at 3,000, 1,000, 500, 200 and 150 roubles on 100-rouble bonds, including the nominal value of

disappeared, unproductive consumption would increase. Whatever the form of economy, capital has a price which must be paid, and interest, therefore, is an element of cost.

Only in one case would interest cease to be a necessary payment. Suppose all goods—all articles of food and drink and comfort and luxury—could be produced by waving a magic wand. Then there would be no need to save. Every one would then work according to his capacity (for exercising his body or mind) and consume according to his need (or the maximum amount possible of every good thing). But wealth is not produced so easily. Factors of production are scarce, and one of the scarce factors is capital. Since saving creates capital, saving has to be rewarded, both under capitalism and socialism.

12. CONTROL OF USURY

It follows that when capital is scarce relatively to demand, the marginal utility of capital and the rate of interest, would be high. Control of interest by the State through penal legislation is largely ineffective. Engels was right when, in criticising Proudhon's utopian schemes, he said that 'the rate of interest would, all the other social conditions remaining unchanged, continue to be governed by the economic laws to which it is subject to-day, despite

the bonds (100 roubles). Premiums are to be drawn four times a year during a period of twenty years, the bonds drawn being thus redeemed. Interest on the interest-bearing bonds is payable once a year at the rate of 4 per cent.

Some of the old loans bearing a high rate of interest have been converted into loans bearing a lower rate of interest.

The Soviet Government incurred foreign indebtedness, mainly during the first five-year plan, for imports of machinery and technical equipment. This indebtedness amounted to 1,500 million roubles in 1931, but had been almost entirely paid off by 1935. As from 1934, imports from abroad have been paid for in cash.

The Soviet Government repudiated the foreign debt incurred by the Czar's Government before and during the Great War. 'Later on attempts were made to settle it, but without any result.'

(This is a summary of Section D. Public Debt, of the memorandum relating to the U.S.S.R. in *Public Finance Memoranda* (1928—35) issued by the League of Nations.)

all decrees,' and that the only difference made by penalising decrees is that financiers are 'very careful to advance money only to persons from whom no subsequent court proceedings might be expected.'¹⁴

Recently action has been taken in all provinces to control the rural rate of interest. The rural rate of interest is high, partly on account of the risk of default on the part of the borrower and partly on account of the scarcity of capital in the villages. Under these conditions penal legislation cannot bring down the rate of interest, nor check fraud and dishonesty in money-lending transactions. The right method of dealing with the problem is (1) to reduce the cultivator's need to borrow by making agriculture more remunerative and his tax-burdens lighter, and (2) to increase the supply of capital. The money-lender is not a lovable person, but the high rural rate of interest and the malpractices of money-lenders are not explained entirely by the greed of money-lenders. The real explanation is found in the conditions governing the supply and demand for capital in agriculture.

¹⁴ *The Housing Question*, p. 38.

APPENDIX TO CHAPTER XXV

Securities and their Yield

A security is evidence of a debt. If I borrow Rs. 100 from you and hand you a paper bearing my signature and 'I O U Rs. 100,' I have acknowledged my debt. My I O U (I owe you) is a security.

A loan may be for a definite period or non-terminable. If I wished to borrow even a small sum solemnly promising never to repay it, you will probably think I was joking. But some government loans are non-terminable, though government has the option of repaying them at any time after giving notice. Such is the case with, for example, Government of India 3 per cent paper issued in 1896-97. It is a non-terminable loan, but Government may repay it at their option after 3 months' notice.

Any holder of a non-terminable loan may convert his security into cash by selling it. What he would get depends on the market price. If the loan was issued at par (Rs. 100 for a bond of the face value of Rs. 100), an incidental profit is made if the current price is more than Rs. 100, and a loss if the bond is selling at a discount.

When the price of a security, carrying a fixed rate of interest falls, its yield, calculated as a percentage on the price, automatically rises. For example, another non-terminable loan of the Government of India, $3\frac{1}{2}$ per cent. paper, was selling at Rs. 96-11 in August 1939; the percentage yield on the price was $3\cdot62\left(\frac{100 \times 3\cdot5}{96\cdot7}\right)$. The outbreak of war in September weakened public confidence in Government and the price of this paper quoted in this month was Rs. 85-1. The percentage yield consequently rose to $4\cdot11\left(\frac{100 \times 3\cdot5}{85\cdot1}\right)$.

In the case of terminable loans, that is, loans repayable on a fixed date, the yield is calculated to redemption. (A loan is said to be redeemed when it is repaid). As an

example, we may take three per cent bonds issued by the Government of India on 10th September, 1934, at Rs. 99. The loan is repayable at par on 15th September, 1941. The total amount borrowed was over 10½ crores.

★ These bonds were selling in August, 1938, at Rs. 103-5. When the loan is repaid, the holder will get Rs. 100, irrespective of the price at which he bought it. Suppose you had bought a bond for Rs. 103-5 on 15th August, 1938. Till redemption you will be entitled to receive interest on the bond at the fixed rate of three per cent. The total interest received by you will be Rs. 9-4. But you will suffer a loss of Rs. 3-5 on account of the premium paid for the bond. Deducting the loss, your net gain is Rs. 5-15 in 37 months. For twelve months, or per annum, the percentage yield is therefore $1\cdot9 \frac{(12 \times 5\cdot94)}{37}$.

The price of the same paper fell to Rs. 98-12 in September, 1939. When the paper was bought at a premium, we deducted the premium from the total interest received to find the percentage yield to redemption. When the paper is bought at a discount, we add the discount to the interest received during a given period.

Suppose you had bought the paper on the 15th of September, 1939, at Rs. 98-12. Till redemption on 15th September, 1941, you would receive Rs. 6 as interest. Add to this the gain from buying the paper at 98-12, for which you will receive Rs. 100 at redemption. You thus earn Rs. 7-4 (Rs. 7·3) in two years, or 3·65 per cent per annum.

Terminable loans, at various rates of interest, are also issued by provincial Governments, municipalities, and Improvement Trusts as the Calcutta and Bombay Improvement Trusts or the Calcutta Port Trust.

★ Industrial companies issue both stocks and shares. Stocks and shares are both loans, but stock is calculated by amount and shares by number. One may buy any amount of stock (as stock worth Rs. 97-5-4), but shares can be bought only in multiples of one, as one, two, ten or any other number. The original price of a share may be Rs. 100, or Rs. 500, or one rupee, or less.

A fixed rate of interest is paid on debentures and

preference shares. For example, Titagarh Paper Mills have raised Rs. 25,00,000 by 4½% mortgage debentures, Rs. 15,00,000 by 5% cumulative preference shares and Rs. 11,50,000 by 8 per cent cumulative preference shares. The debenture holder must get his stipulated rate of interest, whether the company makes a profit or a loss—a certain part of the assets or property of the company is pledged for that purpose. A cumulative preference shareholder may not be paid one year if no profits are earned, but the accumulated interest will be paid when profits are earned.

After the debenture holders and preference shareholders have been paid, the rest of the profit (less the amount transferred to the reserve fund) is divided among ordinary shareholders. The Titagarh Paper Mills raised Rs. 17,50,000 by Ordinary Shares A, and Rs. 17,51,000 by Ordinary Shares B. The dividend per cent. paid to ordinary shareholders of both classes was 32½ per cent in 1940.

Ordinary shares are sometimes divided into ordinary and deferred. For example, the Tata Iron and Steel Co. have issued deferred shares which are entitled to a non-cumulative dividend of 25 per cent per annum after the payment of dividend on preference shares and three per cent on ordinary shares.

Debentures are sometimes convertible into fully-paid ordinary shares at the option of holders, in which case they are known as convertible debentures.

Investment of trust money is governed by section 20 of the Indian Trusts Act of 1882, as amended by the Indian Trusts Amendment Act of 1908 and 1916. Trustees are bound to invest the money in specified securities and in no others. Examples are promissory notes, debentures, stock or other securities of any Local Government or of the Government of India, or of the United Kingdom; stock, debentures, or shares of railways or other companies the interest on which has been guaranteed by the Secretary of State for India in Council or by the Government of India, and other forms of investments expressly mentioned in the Act. When a trustee fails to comply with the provisions of the Act and a loss is suffered by the Trust owing to his action, he is personally liable to make good the loss.

CHAPTER XXVI

ECONOMIC RENT

Rent of land is a payment made for the services of land. It often includes interest on capital invested in or on the land in the form of fertilisers, fences, wells and farm buildings. *Economic rent of land* is a term reserved for payment for the use of land alone, apart from any capital invested in it or on it.¹

1. ECONOMIC RENT IN INDIA

When a cultivator does not own his own land, he hires it from a landlord. This landlord may be a private individual, or it may be the State, as in Russia.

In India the State, from time immemorial, has claimed a share in the produce of the land. This does not necessarily mean State-landlordism. The Indian Taxation Enquiry

¹ "Rent is that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the soil. It is often, however, confounded with the interest and profit of capital, and, in popular language, the term is applied to whatever is annually paid by a farmer to his landlord. If, of two adjoining farms of the same extent, and of the same fertility, one had all the conveniences of farming buildings, and, besides, were properly drained and manured, and advantageously divided by hedges, fences and walls, while the other had none of these advantages, more remuneration would naturally be paid for the use of one than for the use of the other; yet in both cases this remuneration would be called rent. But it is evident that a portion only of the money annually to be paid for the improved farm, would be given for the original and indestructible powers of the soil; the other portion would be paid for the use of the capital which had been employed in ameliorating the quality of the land, and in erecting such buildings as were necessary to secure and preserve the produce." (*Ricardo's Works*, edited by McCulloch, p. 34).

Committee of 1924-25 found that "under both Hindu and Muhammadan rule the State never claimed the absolute or exclusive ownership of the land and definitely recognised the existence of private property in it."² However, land revenue in the Punjab is definitely based on the theory of State-landlordism. "The share of the State, which we call the land revenue," says Douie's *Settlement Manual*, "is not a land tax. It is more analogous to rent, and in early settlement literature it was so described, the Government being represented as surrendering to the landowner a small portion of the rent."³

Let us assume that all land belongs to the State. Then landowners are really tenants. The State may claim the whole of the economic rent of land as landlord; actually the State demands only a certain percentage of rent, 25 per cent in the Punjab.

The land revenue is Government's share in the economic rent of land. How do Government interpret economic rent?

The term used in the Punjab Land Revenue Act is not 'economic rent,' but 'net assets.' Section 48-A of this Act states:

"The assessment of land revenue shall be based on an estimate of the average money value of the net assets of the estate or group of estates in which the land concerned is situated."

'Net assets' mean 'the average surplus which the estate may yield, after deduction of the expenses of cultivation including profits of stock and wages of labour.' Net assets may be estimated directly or indirectly. We proceed directly when, in the case of a peasant-proprietor, we deduct, from the money value of the gross yield, all expenses of cultivation incurred by the peasant-proprietor including 'profits of stock and wages of labour.' What remains is a true surplus above cost, or the true economic rent of land. This is not the method followed in the Punjab. Our Act

² Report, p. 62.

³ Para 2.

takes net assets to mean "the estimated average annual surplus produce of such estates or group of estates remaining after deduction of the ordinary expenses of cultivation as ascertained or estimated;" 'ordinary expenses of cultivation' include payments, in cash or kind, which the landowner customarily bears in respect of a number of items, "and the share that would be retainable by a tenant if the land were let to a non-occupancy tenant paying rent, whether in cash or in kind, at the normal rate actually prevalent in the estate or group of estates."

The predominant form of rent payment in the Punjab is *batai*, or a share of the produce (half in the Canal Colonies generally). If we may assume that out of the share retained by the tenant, he is able to meet his expenses of cultivation, including profits of enterprise and wages for himself and the working members of his family, and, further, from the share received by the landlord we deduct all expenses in connection with cultivation incurred by the landlord, what is left is the true economic rent of land. It is a true 'surplus' above cost of cultivation. The land revenue is supposed to be one-fourth of true 'net assets,' or net profits of cultivation, or net income from the land. All these terms mean precisely the same thing as economic rent.

It deserves to be emphasized that economic rent does not include interest on capital, wages for the cultivator's labour, or profits of enterprise. Interest, wages and profits are elements of cost; economic rent is a surplus above cost.

Actually the rent paid by a tenant may exceed or fall short of economic rent. Where tenants are procured with difficulty, a landlord may not demand the full economic rent as the hire of land; in this case the tenant is allowed to enjoy part of the economic rent. But when land is scarce and competition for land keen, tenants may offer to pay more than economic rent as the price for the use of land. That under such conditions rents are paid by tenants out of their wages is indisputable. It is true not only of the Punjab and India but of European countries. This is one of

the reasons why capitalists do not compete with peasants in bidding for the use of land. A capitalist could not offer to pay for the use of land a charge exceeding economic rent, but the peasant undertakes to cultivate the land 'even when, besides rent and interest, he must hand over to the landlord (as calculated in a capitalist system) also a part of his wages.'⁴

Under certain conditions, then, the rent paid may include the wages of the cultivator. Such conditions undoubtedly exist over a large part of India to-day.

2. HOW ECONOMIC RENT ARISES

The price paid for the use of land in a capitalist economy is determined in the same way as that for any other factor of production—by the marginal utility of its services in production.

Pieces of land differ in regard to fertility and location. Let us ignore these differences. Let us suppose that all land is of the same quality. Or we may assume that when a piece of land is better situated, its superiority in location is negated by inferiority in yield, and when the situation is inferior, the yield is greater in a degree sufficient to compensate for the disadvantages of location. Let us further assume that this land, every acre of which is equally desirable (taking both fertility and situation into account), is indefinite in extent. Under these conditions, land would be a free good; its marginal utility would be zero and rent would be *nil*.

Suppose this land is owned by landlords. In the absence of combination, landlords would compete with one another for tenants. Any rent that a landlord could obtain would be a free present, and not a return for any services rendered (land being a gift of nature). It follows that when the supply of land is in excess of the needs of the population, competition among landlords would bring down rent to a

⁴ *Wirtschaftstheorie der Gegenwart*, (a joint-work, Vienna 1928). Vol. IV, p. 349.

figure which would be practically negligible.

Next suppose that population increases so that more and more land is required for growing food. Rent will rise as soon as land is cultivated beyond the point of diminishing returns.

Let us indicate the quality of the available land by the letter A. All land is of A quality, but the supply of land is fixed. If more and more food is required, it can only be obtained by making cultivation more and more intensive, or by combining more and more capital and labour with a given amount of land. The result, in the absence of improvements in the arts of cultivation, must be diminishing returns.

Let us suppose that diminishing returns have started, and that the return to the first 'dose' of capital and labour is 20 maunds per acre, and to the second 'dose' 19 maunds, the doses being equal in value. Then 1 maund will be the maximum amount of rent that can be paid per acre. Why?

The return to two doses of labour and capital is 39 maunds of wheat, but the cultivator is adequately remunerated for the application of the two doses by a return of $19 \times 2 = 38$ maunds of wheat, since the doses are of equal value. If 19 maunds of wheat is an adequate return to the second dose, it is an adequate return also to the first dose. It follows that 1 maund of wheat is a surplus above cost.

Suppose it is just worth while applying a third dose, the return to which is 18 maunds of wheat. It follows that $18 \times 3 = 54$ maunds is the total return which is sufficient to compensate the cultivator for the application of the three doses of labour and capital. Competition among cultivators would force them to hand over the surplus of 3 maunds to the landlord as rent.

If the return to the fourth dose were 17 maunds, the total return would be $20 + 19 + 18 + 17 = 74$ maunds, and the return required to remunerate the farmer for the application of his capital and labour, $17 \times 4 = 68$ maunds, so that rent would rise to 6 maunds per acre.⁵

⁵ "If, with a capital of 1,000*l.* a tenant obtain 100 quarters of wheat from his land, and by the employment of a second capital of 1,000*l.*, he obtain a further return of eighty-five, his landlord would have the power,

When does it become worth while to apply a further dose? In other words, under what conditions does cultivation become more intensive? The farmer would be guided by the price of wheat. If population is increasing, the growing demand for food will cause its price to rise, thus making it profitable to apply more capital and labour to land even when the marginal return tends to sink. The stronger the operation of the law of diminishing returns, the smaller, other things being equal, would be the addition to the total product due to the application of more capital and labour to land. It follows that, before cultivation becomes more intensive, price must rise so that the value of the marginal product covers the normal return to the marginal application of labour and capital.

3. DIFFERENTIAL ADVANTAGES

Let us now assume that in addition to land of grade A, there is land of grades B, C and D, the yield of which is shown in the following table :—

Doses of Capital and Labour	Return in maunds of wheat per 'dose'			
	A	B	C	D
1	20	19	18	17
2	19	18	17	16
3	18	17	16	15
4	17	16	15	14
5	16	15	14	13
6	15	14	13	12

at the expiration of his lease, of obliging him to pay fifteen quarters, or an equivalent value for additional rent; for there cannot be two rates of profit. If he is satisfied with a diminution of fifteen quarters in the return for his second 1,000l., it is because no employment more profitable can be found for it. The common rate of profit would be in that proportion, and if the original tenant refused, some other person would be found willing to give all which exceeded that rate of profit to the owner of the land from which he derived it.

In this case, as well as in the other, the capital last employed pays no rent." (Ricardo's *Works*, edited by McCulloch, p. 37.)

It is clear from the table that land of B grade will not be brought under the plough unless land A had been cultivated beyond the point of diminishing returns. When two doses are applied to land A, one dose will be applied to land B, while C and D will remain uncultivated. C will come under cultivation when B begins to yield diminishing returns, and D will be cultivated when C begins to yield diminishing returns.

There will be no rent paid for D when it is not cultivated intensively. We assume that the needs of the population do not require the intensive cultivation of D. The argument is the same as in the case of A. There is so much of land D that its marginal utility is zero. But if the population increased and the price of food rose sufficiently it would become profitable to cultivate even D intensively. Under these conditions rent would emerge for every acre of D land.

D is marginal land, and by assumption there is no land worse than the worst, D. Rent paid for D may be called scarcity rent. The rent of superior lands, then, would consist of two elements, marginal and differential. If two maunds per acre is the rent paid for D, the rent of C would be 3 maunds, that of B, 4 maunds and that of A, 5 maunds per acre. Of the rent of A, 2 maunds would measure the marginal utility of land as such, and 3 maunds the superiority of A over the marginal land.

It is sometimes argued that rent arises on account of differences in the yields of different pieces of land. But we have seen that even if all land were of the same quality, rent would emerge if the land were cultivated beyond the point of diminishing returns.

When cultivation is driven from A to B, or from B to C, the margin of cultivation is said to fall. Usually, though not always, it is the best lands that are brought under cultivation first, taking both fertility, location and other circumstances into account. But sometimes it happens that lands which are more fertile remain uncultivated for want of water or suitable varieties of seeds. The development of canal irrigation in India has brought land of very good quality under cultivation. The evolution of new types of wheat has added millions of acres to the wheat area of the

world. Generally speaking, however, it remains true that as the demand for food increases, the margin of cultivation falls, that is, inferior soils with lower yields are brought into cultivation. At the same time the better soils would be more intensively cultivated. If a farmer were cultivating pieces of land of varying degrees of fertility, he would so apply capital and labour to each as to make marginal returns from them equal. That is alone how he can maximise his total returns. With 14 doses of labour and capital at his disposal, a farmer, in the example given above, would maximise his total return by applying 5 doses to land A, 4 to land B, 3 to land C and 2 to land D. The return would be 90 maunds from land A, 70 for B, 51 from C and 33 from E, a total of 244 maunds of wheat. If he applied 5 doses to A, 5 to B, 3 to C and 1 to D the total return would be $90+85+51+17=243$ maunds. No distribution of his resources between A, B, C and D would give him a greater total return than that which makes marginal returns from the four pieces of land equal.

The margin of cultivation is said to rise when, on account of improvements in the arts of cultivation, larger yields are obtained from superior lands, so that inferior lands are thrown out of cultivation. The result is the same when a country begins to import food. The imports make it unnecessary to have recourse to inferior lands. A rise in the margin of cultivation lowers rents, and a fall increases them.

4. RENT AND PRICE

Land elsewhere competes with land in India. Any causes which tend to lower the world prices of food-grains and raw materials, such as biological progress, use of agricultural machinery, or other improvements in the methods of cultivation, would bring down agricultural rents in India. They have fallen.

Let us, next, take a country like the United Kingdom which, unlike India, imports food from other countries. Such a country may attempt to maintain agricultural prices and rents at a high level by taxing the imports of food.

The object of the British Corn Laws was to maintain a steady price of food and to stimulate home agriculture. The Act of 1791 aimed at keeping the prices of wheat ranging between 46s. and 54s. the quarter. A bounty of 5s. was to be paid on the export of wheat when the price fell to 44s., but, on the other hand, a protective duty was levied on importation when the price was below 50s. The effect of such measures would be largely to benefit the landlord class, for the high price of food would produce high agricultural rents. In 1815 the importation of foreign corn into England was prohibited so long as the price of wheat did not rise above 80s.

The working masses of England wanted cheap food and, as the result of agitation by Cobden and Bright, the founders of the Anti-Corn Law League, the Corn Laws were repealed in 1846. Free importation of wheat was immediately followed by a fall in its price and a fall in rents. After 1846 the landed interest was relegated to a subordinate position in British economy. England ceased to rely for her food supply on her own soil—"we reverted from the pursuit of power in our economic policy to the pursuit of plenty."⁶

Rent comes out of price, or the relation of economic rent to price is a dependent relation. It may be argued that interest, wages and profits also come out of price. When prices are rising, interest, wages and profits also rise, and when prices fall, they also fall. But there is a difference between the share claimed by landlords and those going to the other factors of production.

Interest, wages and profits are price-determining factors; economic rent is price-determined.

If interest were not paid, the supply of capital would decrease; interest is therefore an element of cost. The same is true of the remuneration of labour, and of earnings of management. To induce labour to work wages must be offered; the work of the entrepreneur in organising production must be suitably remunerated, or the supply of entrepreneurial ability will decrease. But land will always be

⁶Cunningham's *Growth of English Industry and Commerce*, Vol. III, p. 843.

there whether economic rent of land exists or is abolished. It is in this sense that rent is price-determined, and not price-determining.

5. NO-RENT LAND

Rent is measured from a no-rent margin. When land is of the same quality but is scarce, and has been cultivated beyond the point of diminishing returns, the no-rent margin is represented by the return to the marginal dose. The return to the marginal dose is sufficient to remunerate the labour and capital applied, but yields no surplus or economic rent.

Ordinarily land is not of the same quality. When land of varying degrees of fertility is cultivated, the rent of a piece of land is the difference between its yield and the yield of land of marginal quality. The yield of marginal land is just sufficient to remunerate the farmer for the application of his capital and labour, but there is no surplus.

Marginal or no-rent land would be cultivated only if the price of agricultural produce was high enough to make it worth while to do so. Price must cover cost of cultivation of the marginal farmer, or the marginal land will go out of use. Since the marginal farmer does not pay rent, rent is not an element in cost of production.⁷

⁷ "The reason, then, why raw produce rises in comparative value is because more labour is employed in the production of the last portion obtained, and not because a rent is paid to the landlord. The value of corn is regulated by the quantity of labour bestowed on its production on that quality of land, or with that portion of capital, which pays no rent. Corn is not high because a rent is paid, but a rent is paid because corn is high; and it has been justly observed that no reduction would take place in the price of corn, although landlords should forego the whole of their rent. Such a measure would only enable some farmers to live like gentlemen, but would not diminish the quantity of labour necessary to raise raw produce on the least productive land in cultivation.....

"If the high price of corn were the effect, and not the cause of rent, price would be proportionally influenced as rents were high or low, and rent would be a component part of price. But that corn which is produced by the greatest quantity of labour is the regulator of the price of corn; and rent does not and cannot enter in the least degree as a component

Suppose it is not possible to import food from outside, or that we are dealing with a 'closed' community. The rise in the price of food due to the growth of numbers may make it profitable to cultivate even the marginal land intensively, in which case rent will be paid for every acre of the marginal land. This scarcity rent is the result of price, not the cause of it.

Price will just cover the cost of the marginal application of capital and labour to the land of the worst quality. Any return over and above this cost would be appropriated by the landlord—competition among tenants would force them to part with the surplus.

Thus costs which enter into the calculation of price are wages of labour, interest on capital and legitimate profits of enterprise. Payment for land as such, or economic rent, does not enter into cost, and therefore does not enter into price.

The special relation of rent to price is due to the fact that land is a free gift of nature, or that its supply is not dependent on a price being paid for its use. If rent did not exist, land, as we have said before, would still contribute its share to the production of wealth, and the rise of rents several times above their present level would not appreciably increase the supply of land.

Land has a marginal utility, hence the payment for its use. But the marginal utility of land is independent of the existence of landowners.

6. RENTS OF SHOPS

There are two elements in the rents of shops, interest on capital invested in the building, and site rent, or situation value.

Let us suppose that there are two shops A and B, providing equal accommodation, and built at the same cost, but B is

part of its price." (Ricardo's *Works*: pp. 38-40).

McCulloch adds in a footnote:

"The clearly understanding this principle is, I am persuaded, of the utmost importance to the science of political economy." (P. 40).

far removed from the business quarter of a town; and A is situated in the heart of it. Interest on capital, including cost of repairs, is the same in the two cases, say, Rs. 50 a month, or Rs. 600 for a year. Rent cannot be less than Rs. 50 a month, for if that were so, fewer shops would be built; and demand for shops remaining the same, rents must rise so as to cover the cost of providing shop accommodation represented as a monthly or annual payment. But while the rent of shop B is Rs. 50, that of A, we suppose, is Rs. 150 a month. The difference, Rs. 100, measures the superiority of the site on which A is built over that of B. B's site value is *nil*.

While the total payment made for the use of a shop is commonly called rent, economic rent is only that part of rent which is in excess of interest on capital. Site rent is analogous to economic rent of agricultural land.

It is often seen that higher prices are charged for the same commodities by shops in the fashionable quarter of a town than by other shops less well-situated. Are higher rents the cause of higher prices, or higher prices the cause of higher rents?

If you ask shopkeepers they will invariably say: "We have to pay higher rents and are compelled to charge higher prices." But the fact that any one has agreed to pay a high rent for a shop does not enable him to charge higher prices. If, for any reason, people will rather pay higher prices than go elsewhere, higher rents can be paid.

Higher prices may be paid by customers because (i) it is considered fashionable to buy things from shops in a particular locality, or (ii) the shops are conveniently situated. Whatever be the reason, if shopkeepers are able to charge higher prices, they can afford to pay higher rents.

Improvements in the means of transportation help to relieve congestion in a town. If rapid means of communication and transportation existed between the municipal area of Lahore and places round about Lahore, people, instead of paying high rents in Lahore, will go and live in the suburbs. The growth of the Model Town near Lahore has helped to reduce the demand for a particular type of house accommodation in Lahore. Thousands of persons live in the suburbs

of Calcutta and are carried daily to their place of work in that city by railway trains, electric trams and motor buses. The improvement of means of communication and transportation thus enables land outside to compete with land within the town area.

Another method is the intensive utilisation of valuable sites by building higher, as in New York and Chicago. Sky-scrapers were first built in Chicago. These tall-buildings are so-called because of their enormous height (the Empire State Building in New York is 1,248 feet high). The building of sky-scrapers enables a very large population to be concentrated in a very small area. Electric lifts are used to carry people up and down, but even then the return in convenience diminishes as one mounts higher and higher for residential or business purposes. The cost of construction also goes up, for the foundations have to be made stronger with increasing height. Sky-scrapers are erected on enormous steel drums, filled with concrete and sunk into rocks.

In a town of sky-scrapers the situational margin may well be found in the topmost flat. Its 'rent' will just cover its cost of construction represented as an annual payment, and the site value would be *nil*. This topmost flat will compete with houses in outlying areas which are also situated on the situational margin.

7. THE MODERN DOCTRINE

In explaining rent and its relation to price we have taken no account of alternative uses of land. Arable land may be used as pasture, or the same piece of arable land may be used for growing food crops or non-food crops. Land in a town may be used for a variety of purposes, e.g., for shops, offices, educational institutions, or residential purposes.

Rent payments determine the use to which land will be put. When commercial crops become more remunerative, there is substitution of commercial or non-food crops for food-crops. No landowner will dream of utilising valuable sites in the centre of a town for agricultural purposes (assuming this was permitted by the town municipality), but the

choice is open to him to build shops, or houses, or a school or college hostel, or offices. It is estimated income which decides the particular use which will be made of a given site.

Let us suppose that a big Trust owns property all over Lahore. All sites are not equally suitable for all purposes. It would be a mistake for the Trust to build residential houses where shops will command more rent, or to build offices where houses are more in demand. The Trust will not choose a site in the busiest quarter of the town for building a students' hostel, for by doing so it will reduce its income.

Suppose the Trust decides to build shops in a certain part of Lahore. But it might have built houses there. A site for shops has an alternative use, *e.g.*, for house-building. The payment which has to be made in order to withdraw a shop site from its alternative use will enter into the prices of goods sold by the shop.

Transfer Earnings.—What a factor would earn in its best-paid alternative use is called its transfer earnings. Let us assume that a shop site is worth Rs. 1,000 annually. If the same site were used for house-building, it will be worth Rs. 200 annually. This, we assume, is the best alternative use of this site. Then Rs. 200 is the transfer earnings of the site. The excess of the actual income over the transfer earnings of the site, Rs. 800, is rent, which is a true surplus, and which does not enter into cost.

The worst situated shop site has some value for residential purposes. If Rs. 50 has to be paid for withdrawing it from its alternative use, this Rs. 50 is a necessary payment, and is therefore an element of cost from the point of view of the shopkeeper.

The marginal wheat land may be used as pasture. If it is necessary to make a payment to withdraw land from pasture in order to use it for wheat-growing, say one rupee per acre, then this payment will enter into the cost of producing wheat.

Margin of Transference.—But there is also a margin of transference. When a piece of wheat land is situated on the margin of transference, the excess of its actual earnings

over its transfer earnings, (e.g., when used for pasture) is zero. Rent in this case is *nil*. Such land is no-rent land in the true sense of the word. Only land situated above the margin of transference would earn rent, measured by the excess of its earnings over what it would earn in its most remunerative alternative use.

We thus get two views of rent. According to the classical view (a) rent is a payment for natural differential advantages, i.e., differential advantages which cannot be increased at will; (b) the amount of rent is determined by the natural superiority of a factor over the marginal factor which earns no rent; and (c) rent does not form part of price. According to the modern view, rent is the excess of the earnings of a factor over its transfer earnings, from which it follows that (i) transfer earnings of wheat land (i.e., what it will earn as pasture) enter into the cost of production of wheat and (ii) no-rent factors are found only on the 'margin of transference.'

The idea of 'the margin of transference' is explained by Mr. H. D. Hendersen in his *Supply and Demand*.⁸ Mr. G. F. Shove has suggested that when land is used for industrial purposes, only such part of the payment for each piece of land attached to an industry be treated as cost 'as is required to prevent its being transferred to another use, and only the excess over this as rent. Land on the margin of transference,' he continues, 'does not then yield any rent, but land specially suitable for the particular industry under consideration does.'⁹

Mr. Hendersen is largely an upholder of the traditional view of rent. The marginal land, in his view, is no-rent land: "The marginal land will be land which yields a decent profit to a decent farmer as well as a gross rent to the landowner, sufficient to compensate him for his capital outlay, but nothing further."¹⁰ The marginal farm, thus, is a no-rent farm. But, according to Mr. Hendersen, the marginal site for shop-keeping purposes "will not be like our

⁸ Chapter VI, pp. 101-102.

⁹ *Economic Journal* for June 1928, p. 259n.

¹⁰ *Supply and Demand*, p. 91.

marginal farm, a site which yields no rent." This is because it will possess a value for its alternative use, e.g., house-building.

The case of agriculture is different. To quote Mr. Hendersen again :

"It is not clear whether it will pay to use that farm land for a building scheme; and, within the domain of agriculture, which of course comprises an immense variety of really different industries, it is often a very moot point indeed whether a certain field should be left under grass, or brought under the plough. Cases of this sort are not phantoms of the imagination; they emerge on every side as concrete problems with which someone or other is dealing every day, and it is these cases which constitute the marginal land for the purposes of a particular occupation."¹¹

Thus the marginal or no-rent land exists, and the rent paid for super-marginal land represents the "differential advantage of cultivating the land in question rather than land on the margin of cultivation."¹²

8. QUASI-RENT

This term is applied to the earnings of durable goods like houses, machines or ships, whose supply can be increased, but only in the long period. In the short period the supply of such durable goods may be taken as fixed. If the capital of India were suddenly transferred from Delhi to Lahore, increase in the demand for house accommodation would immediately raise house-rents in Lahore, and rents would remain above their normal level (determined by interest on capital invested in houses) until more houses could be built. Machines, houses and ships take time to build. In the short period they are just like land, whose supply is fixed and unresponsive to changes in its income.

But in the long period the supply of durable goods can be increased, so that income from durable goods in the long period will tend to be equal to interest on the capital invested

¹¹ *Supply and Demand*, p. 96.

¹² *Ibid.*, p. 91

in them. At the present time fixed capital in several Indian manufacturing industries is earning an income which partakes of the nature of economic rent of land. Prices have risen, making it profitable to bring into use machinery which was previously lying idle, and to work better machines more intensively. Under such conditions even 'marginal' factors would earn an income over and above their cost, while super-marginal factors would earn an extra income corresponding to their differential advantages over marginal factors—as in the case of land.

A sudden collapse of demand would reduce the earnings of durable goods below interest on capital.

If the demand for ice heavily declined, ice machinery will cease to pay interest on capital invested in it. Gradually, as old machines wore out, they would not be replaced, and ultimately, in the long period, earnings of ice machines would become equal to interest on capital again.

The concept of rent as excess of actual earnings over transfer earnings cannot be applied to quasi-rent. For example, a type-writer is a durable good, which may earn a rent if a sudden burst of literary activity increased the demand for type-writers. Even the oldest model, the most rickety machine, may be brought into use and earn its hire or more, while better machines would earn an extra income corresponding to their differential advantages over the marginal machines. This is intelligible. But what are the 'transfer earnings' of a type-writer? A type-writer is of little use except as a type-writer. It is a specific factor. Therefore, it will be argued, the whole of its earnings are of the nature of rent. But they are not. They are, ordinarily, of the nature of interest. Similarly, the transfer earnings of ships, railway engines, sewing machines and a thousand other durable goods are practically zero. To call the whole of their actual earnings 'rent' would be a misuse of the term.

Dr. Benham says :—

'A fall of 5 or 10 per cent in the earnings of wheat land might induce the owners of this land to use it for some other purpose ; and so on. At the other extreme there may be some land which is practically useless for anything except

growing wheat. It would continue to grow wheat even if its earnings fell to nearly zero. The whole of its earnings, from the standpoint of the wheat-growing industry, are of the nature of rent, for they are not necessary to induce it to remain in the industry. And, in general, the excess of what any unit gets over its transfer earnings is of the nature of rent.¹³

It must be said that rent as a payment for natural differential advantages is a more definite conception than rent as the excess of what any unit gets over its transfer earnings. For a unit may have no transfer earnings, and even when it has, it may be difficult to ascertain them.

9. RENT OF ABILITY

One may discern an element of rent in the earnings of a leader of the bar, a workman who is naturally more skilful or intelligent than his fellows, a business man with a natural flair for business, or a manufacturer who is a born organiser and leader of men. So far as extra earnings in each of these cases are due, not to the advantages of superior education and training but natural differential advantages, they are of the nature of rent, and the amount of rent is equal to the difference between the earnings of the super-marginal and the marginal unit. But how shall we discover the transfer earnings of a leader of the bar or of advocates in general? If the law courts were permanently closed, setting all advocates free for other occupations, they would bring down earnings in the occupations which they sought to enter. And what is gained by saying that if the transfer earnings of an average advocate are Rs. 50, and he is earning Rs. 75 a month as an advocate, Rs. 25 of his income is rent? According to the older and more sensible view, he earns 'rent of ability' only in so far as his natural genius enables him to earn more than the marginal advocate.

If the earnings of an advocate fell below what he could earn in another occupation, he would change his profession. This conclusion may be reached without the aid of the

¹³ *Economics*, 2nd ed. p. 299.

concept of 'transfer earnings.'

10. RENT OF FISHERIES, MINES AND QUARRIES

Fisheries are like land, for if proper care were taken of them and fishing prohibited or restricted in the breeding season, they would yield their produce, like land, for ever.

A mine or a quarry is different. It is nature's storehouse. Continuous working will, one day, exhaust the richest mine. The payment made for working a mine, known as royalty, may be viewed as the price of the mineral extracted.

But mines (and quarries) differ greatly in respect of situation and convenience of working. In one case the mineral may be found near the surface, and in another case at a depth of several hundred or several thousand feet. A mine may be situated close to the place where its product is disposed of; in another case it may be necessary to transport the product over long distances for the same purpose. Thus there will be marginal mines, which yield no surplus over and above the cost of working them, and other mines which are more profitable to exploit. The latter will command a rent, the amount of which, as in the case of land, will be measured by their respective natural differential advantages over the marginal mine or mines.¹⁴

¹⁴ "If there were abundance of equally fertile mines, which any one might appropriate, they could yield no rent; the value of their produce would depend on the quantity of labour necessary to extract the metal from the mine and bring it to market.

"But there are mines of various qualities, affording very different results, with equal quantities of labour. The metal produced from the poorest mine that is worked, must at least have an exchangeable value, not only sufficient to procure all the clothes, food, and other necessities consumed by those employed in working it, and bringing the produce to market, but also to afford the common and ordinary profits to him who advances the stock necessary to carry on the undertaking. The return of capital from the poorest mine paying no rent would regulate the rent of all the other more productive mines. This mine is supposed to yield the usual profits of stock. All that the other mines produce more than this, will necessarily be paid to the owners for rent. Since this principle is

11. DIAGRAMMATIC ILLUSTRATION

In Fig. 61 we measure the doses of capital and labour applied to land along OX and the return in wheat along OY. A return equal to OD in wheat is deemed sufficient to remunerate the application of a dose of capital and labour. All 'doses' represent the same amount of capital and labour.

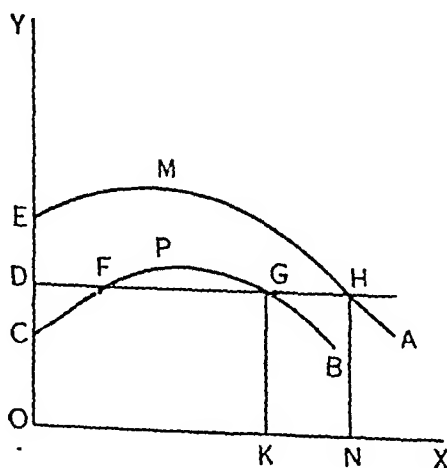


Fig. 61

There are two farms, A and B. Then not more than OK doses will be applied to B and not more than ON doses to A, for beyond K, in the case of farm B, and beyond N in that of farm A, the return would be less than what is required to remunerate a dose of capital and labour.

When OK doses are applied to B, the total return in wheat will be the area KGPFCO, and the cost equal to the rectangle KGDO. The area DFC represents loss. If the area FPG is equal to DFC, B is a marginal farm, yielding no rent. If FPG is greater than DFC, the excess FPG-DFC is 'scarcity rent.'

A is a superior farm. Its rent is equal to NHMEO—
precisely the same as that which we have already laid down respecting land, it will not be necessary further to enlarge on it." (Ricardo, *loc. cit.* p. 45.)

NHDO. Assuming that FPG is greater than DFC, the marginal element in the rent of A is $FPG - DFC$, and the differential element $HMED - (FPG - DFC)$.

12. RENT IN A SOCIALIST STATE

Both urban and agricultural rents are necessary payments. They exist in the Soviet Union.

House Rents.—If there was an indefinite supply of house-accommodation of a uniformly excellent quality, every one in a socialist State would be comfortably housed without having to pay any rent. But houses are scarce. Rent serves to limit demand. And the better the accommodation, the greater is its scarcity, and consequently the higher is the rent.

There is great scarcity of housing in Russia—the population has been increasing rapidly and the building programme of the Government has not been able to keep pace with the growth of numbers.

Sir Walter Citrine has calculated that between November 1918 and the 1st January, 1937, 233,000,000 square metres of new housing was provided in Great Britain, as compared with 54,000,000 sq. metres built in Russia during roughly the same period. In the course of these years the population of Russia increased by approximately 40 millions, and the population of the United Kingdom by roughly 3 millions.¹⁵

As compared with the United Kingdom housing conditions in Russia can only be described as wretched.¹⁶

¹⁵ *I Search for Truth in Russia*, pp. 399-400.

¹⁶ Sir Walter Citrine says (*loc. cit.* pp. 119-20): "The houses we have seen represent the latest Soviet ideas. What are they? They are large tenements badly built, sometimes five stories high, mostly without any lifts. They have no baths as a general rule, and usually only cold water. The nearest public bath may be a considerable distance away. There are few, if any, provisions for washing clothes. I saw clothes in several flats hanging out in the square where the children were supposed to play. A wash-basin or a separate bathroom is the exception and not the rule."

Compare this with Great Britain. I know how badly we need more houses and cheaper accommodation for our crowded people. A considerable part of my time and energy has been spent in trying to secure this,

Comrade Yvon describes the different kinds of dwellings in the Soviet Union, but he says: 'Whatever be the type of dwelling, it is extremely difficult to secure.'¹⁷

Under such conditions house accommodation cannot be free.

House-rent in Russia depends upon four factors: (a) nature of the dwelling, (b) the area occupied, (c) importance of the family, and (d) income of the family.

Comrade Yvon gives an example. If the monthly wages of the family are 150 roubles, rent of a room of 15 sq. metres is 12 to 15 roubles (about 10 per cent. of the wages); if the monthly salary is 1,000 roubles, rent is 40 roubles (4 per cent. of the salary). And he adds that certain high dignitaries pay no rent at all for comfortable, furnished apartments provided by the State. The best accommodation is naturally reserved for privileged persons.

In general, as many families live in a house as there are rooms. A single room of 10-20 sq. metres suffices for a family of 3, 4 or 5 members.

Specialists, technicians, littérateurs, savants and high functionaries live in houses containing several rooms with a separate kitchen, which, says Comrade Yvon, look like

But it is unchallengeable that the modern house accommodation in England provides at least separate bedrooms, separate bathrooms, and usually a separate w.c. as well. I never saw a separate w.c., for a single family only, in any of these Russian houses. They were all shared with another tenant or two. I saw very little space for storage of clothing and household utensils. The average Russian cannot spend very much on furniture, I am sure. First, because the prices are too high, and secondly, because he would have nowhere to put it. Against all this I must state that rents are extremely low, and electric light is cheap, and the houses are usually centrally heated."

Sir Walter Citrine found that in most cases rent was 10 per cent of wages. "But this is usually only for one single room. For, say, a house with two bedrooms and two lower rooms, in order to get a comparative figure with an English workingman's accommodation on a municipal housing scheme, the Russian would pay something like 30 per cent of his wages" (*Ibid.*, p. 164).

¹⁷ *Ce qu'est devenue la Revolution Russe*, p. 9. Comrade Yvon's words are: "Que que soit le type d'habitation, il est extrêmement difficile d'y obtenir un logement."

palaces as compared with the barracks occupied by Soviet workers.

Agricultural Rents.—Collective farming is the key-note of Soviet rural economy. In theory collective farms pay no rent for the land leased to them in perpetuity. In practice the State exacts heavy payments. Land and its products are the most important source of State income in Russia.¹⁸

Every collective farm must make a compulsory delivery to the State of a certain portion of its produce at extremely low prices fixed by the State. Till 1932-33 the amount to be taken was determined by a contract between the farmer and a State agency. This procedure tended to discourage efforts to increase production. Since 1932-33 the Government has been taking a specified amount of grain per *hectare* (about 2½ acres) of the sown area. The compulsory delivery applies to all farm produce (grain, sugar-beet, flax, butter, milk, meat, etc.). Having acquired the produce at cheap rates, Government makes a profit by selling it to the consumer at much higher prices. Of the market price, the price received by the farmers for supplies compulsorily delivered, is about 25-30 per cent.¹⁹

It is estimated that the total yield of cereals in 1934 in the Soviet Union was 845,000,000 quintals, of which 263 million quintals were compulsorily acquired by the State, representing 31.1 per cent of the total crop.²⁰

What are compulsory deliveries to the State except a payment for the use of land?

A second payment is for the use of agricultural machines. Hubbard estimates that from a light crop a

¹⁸ The entire revenue of the Soviet Union in 1937 was 796.8 billion roubles, of which the People's Commissariat for the Purchasing of Agricultural Products provided 24.1 billion roubles, and the People's Commissariat of Food Industry another 20.4 billion roubles, a total of 44.5 billion roubles, or about 46 per cent of Government revenue. See *Towards an Understanding of the U.S.S.R.* by Michael T. Florinsky (Macmillan, 1939), p. 206.

¹⁹ *Soviet Trade and Distribution*, by L. E. Hubbard (Macmillan, 1938), p. 170.

²⁰ N. de Basily says in *Russia Under Soviet Rule* (George Allen & Unwin 1938,) pp. 334-35:—

collective farm has to give about 12 per cent to the M.T.S. (Machine Tractor Station), from a heavy crop about 18 per cent, and from an average crop about 16 per cent.²¹

If a collective farm takes its grain for grinding to a State

"During the period 1928-1935 the compulsory deliveries of grain to the State were on the following ascending curve (in quintals of 100 kilograms).

Years	Total Yield of Cereals. Million quintals	Compulsory Deliveries to the State	
		Million quintals	Percentage of the Total Crops .
1928	733.2	124	16.9
1929	717.4	163	22.7
1930	835.4	226	27.0
1931	694.8	227	32.7
1932	698.7	192	27.5
1933	800.0	231	28.9
1934	845.0	263	31.1
1935	920.1	...	...

In addition, the peasants are compelled to deliver to the State all their cotton and sugar-beet; all potatoes up to 22 quintals per hectare; all wool up to 2,000 grammes (4.4 lb.) per sheep; all milk up to 220 litres (or about 48 gallons) per cow in the northern provinces, etc.

These deliveries are made against payment of 'fixed prices' by the State, which somewhat camouflages their real fiscal character. The latter is, however, made clear when the extremely low prices paid by the State for agricultural deliveries are compared with the inordinately high prices charged by the State when selling these same products to the consumer. The differences thus obtained figure among the assets of the Budget under the heading "Turnover Tax received from Agricultural Produce." The estimated yield under this heading amounted to a round sum of 24,000 million roubles for each of the three years 1935, 1936 and 1937.

The revenue returns for 1935, recently published, indicate what enormous proportion of the value of the agricultural production is appropriated by the State; and also how little is left to the peasants."

²¹ Hubbard, *loc. cit.* p. 293.

mill, a milling tax of 10 per cent has to be paid for this service.

There is, however, a difference between the rent paid by tenants to private landowners in India, and the rent exacted by the Soviet Government from individual and collective farmers. In India economic rent is appropriated by private individuals who render no services to the land, and are useless intermediaries. In Russia, economic rent accrues to the State and is utilised for the economic development of the country.²²

It is, however, conceivable that the development of production, even under socialism, may benefit chiefly, not the masses of workers but a privileged bureaucracy.

In Russia the old classes have disappeared, but new classes have taken their place. The old exploiters were got rid of, but new exploiters have arisen.

²² Florinsky says (*loc. cit.* pp. 206-07): "The bulk of the deliveries in kind came from the collective farms. The provision of Article 8 of the Constitution that collective farms shall enjoy the use of their land 'without payment' is, therefore, only formally true: officially they pay no rent but for all practical purposes compulsory deliveries at nominal prices are equivalent to rent, a rent that is much higher than anything known in the capitalist countries. It is only fair to add, however, that the large financial sacrifices made by the farmers do not contribute to the revenue of capitalist landowners, but are invested by the State in its vast program of economic development.

In addition to the deliveries in kind the farmers pay in cash both an agricultural tax and a special tax for the cultural and housing needs of the rural districts. In 1937 the yield of these taxes was estimated at 1'2 billion roubles. Taxation in all of its forms has been used as a powerful method of fostering collectivization. The tax burden of the individual farmers has been invariably much higher than that of the collective farms and in the case of the *kulaks* it has been definitely confiscatory." (*Kulaks* are large farmers.)

CHAPTER XXVII

PROFITS—GENERAL VIEW OF DISTRIBUTION

1. CONSTITUENT ELEMENTS OF PROFITS

Gross profits, like gross interest, consist of several elements.

One of the elements in gross profits is earnings of management. The employer renders a service in organising production, for which payment is essential. There are no capitalist-employers in a socialist economy, but earnings of management exist. All concerned with organising production in a socialist economy are paid by the State. They include factory directors and members of planning committees or commissions, both central and local. It may seem as if the Dictator in a socialist State may pay whatever he pleases to any class of organisers. He may bring down experts to the level of ordinary workingmen. The experience of Russia shows that that is not possible.

We are not suggesting that organising ability will earn the same reward under socialism as under free competition. But if organising ability of a particular type is scarce, it will command a high value, whatever the form of economy.

The capitalist-employer has a legitimate claim to interest on capital invested by him in his business. We cannot make a distinction between his own capital and borrowed capital. If interest on borrowed capital is a legitimate charge, so also is interest on the capitalist's own capital.

A third payment is for risk-bearing. When you found a business you run a risk of loss. The venture may succeed and bring good profits, but it may fail.

Risk-taking is inseparable from business since production is in anticipation of demand. The nature and extent of risk

are different in different industries. The greater the risk, the higher must be the expectation of profit.

The importance of compensation for risk-taking is often under-rated. When any one earns big profits and amasses a fortune in a risky enterprise, he is noticed and envied. But the many who have failed and disappeared do not attract attention. The gains of a few may only just balance the losses of many.

Earnings of management, also called wages of superintendence, interest on capital, and compensation for risk-taking are necessary payments and enter into cost of production.

Wages of superintendence should be distinguished from the wages of employees. These latter are stipulated payments and their rates are fixed by agreement between the employer and the employee. Wages of superintendence are a residual income, and are regulated by competition among entrepreneurs. If too many entrepreneurs have entered an industry, competition would bring down the wages of superintendence.

The wages of superintendence are a part of profits, not the whole of profits.

There are three other elements in profits which do not enter into cost of production. These are (i) chance gains, also called 'aleatory profits,' (ii) speculative gains, and (iii) gains of monopoly.

Chance gains are due to unforeseen changes in supply or demand, or fluctuations of the market. An exporting industry would benefit by an unexpected increase in the foreign demand for its products. An unexpected shortage of imports, by raising prices, increases the profits of home manufacturers. The outbreak of war enriches some dealers and manufacturers, just as it causes loss to others who lose their foreign markets. There are chance losses as well as gains.

Speculative gains are made when anything is bought or sold in the expectation of a change in price. We have already dealt with 'bulls' and 'bears.' What we mean by speculative gains in this connection is the profit made, for example, by a spinner by a speculative purchase of cotton.

The rise in the price of cotton would raise the price of yarn. A dealer may buy goods in anticipation of a rise in price, and make a profit if he was right in his judgment. Such gains of speculation are distinct from the compensation for risk-taking. A business man may not choose to speculate. But he cannot avoid taking risks involved in production in anticipation of demand.

Monopoly profit or monopoly revenue has already been explained.

In a state of perfect competition, with perfect mobility of labour and capital, monopoly gains, speculative gains and chance gains would disappear, but profits in the sense of wages of superintendence, interest on capital and compensation for risk-taking would remain. Even under perfect competition there would be, for the individual entrepreneur, risk in embarking on a venture. Even when there is no change in the total market demand for a commodity, no individual entrepreneur can be certain of his share in the market.

2. PURE PROFITS

Profits earned by the marginal producer enter into cost of production. For if the marginal producer did not earn profits sufficient to retain him in the industry he would disappear. His profits consist of the three necessary elements mentioned above.

Intra-marginal (or super- or supra-marginal) producers earn more, as their costs of production are lower than those of the marginal producer. The extra profits of intra-marginal producers are of the nature of 'rent of ability.' They may also be called 'pure profits.' Pure profits are a surplus above cost. They are, like the economic rent of land, the result of price and not the cause of it.

Pure profits are constantly appearing and constantly disappearing. Suppose I invent a new method of making ice-cream, which is more economical than the existing methods. My profits would increase, but as soon as the new method became known and was generally adopted, my extra profits, due to the invention, would disappear.

There is a normal rate of 'net' interest, but no normal rate of pure or 'net' profits in the sense of rent of ability. 'Net' interest is a necessary payment, but not 'net profits.' In fact, in a state of ideally frictionless competition, in which there was a perfect adjustment of supply to demand, and there were no unforeseeable fluctuations of the market, 'net' or pure profits would wholly disappear. For as soon as 'net profits' showed signs of appearing in any industry, entrepreneurs from other industries (we assume perfect mobility of factors of production) would move into this industry. By bidding for labour and capital they would, on the one hand, raise the prices of factors of production and, on the other hand, by augmenting supply, bring down the price of the product.

The actual world, however, is not a world of frictionless competition, and 'pure profits' have a real existence, though, as the result of competition, they may be ever tending to disappear.

3. THE STIMULUS OF PROFITS

Under capitalism the stimulus of profits leads entrepreneurs to engage in production. There is competition and survival of the fittest. An entrepreneur attempts to keep down cost by employing the most economical methods of production, for profit is maximised thereby. Failure means elimination.

In a socialist economy the stimulus of private gain, which is the mainspring of economic activity under capitalism, is lacking, but cost of production of goods may conceivably be lower than under capitalism for several reasons. The cost on account of interest is less—on the greater part of the investment that the Soviet Government makes annually in industry, it pays no interest. Rent accrues to the State. The State prevents the accumulation of large fortunes, and though it must pay experts and technicians better than ordinary workingmen, the difference may be less than under capitalism. Socialist production is planned production, and waste due to trade fluctuations in a capitalist economy is avoided. Notwithstanding these advantages,

prices of goods paid by consumers in the Soviet Union are comparatively higher¹ than in the leading capitalist countries, and the quality of goods is less satisfactory. Great progress has been made by Russia in industrialisation in recent years, but she is still far from having overtaken and

¹ The following prices are quoted by Sir Walter Citrine in *I Search for the Truth in Russia*, page 392.

Purchasing power of the Rouble and the £.

Commodity.	Price in Russia, Roubles. December, 1937.	Price in England. December, 1937.
Wheat flour per lb.	1·82 to 2·54	2½d.
Meat	3·18 to 5·45	4½d. to 1s. 4½d.
Sugar	1·73 to 1·82	2½d. to 3d.
Butter	6·81 to 9·09	1s. 4½d. to 1s. 5½d.
Potatoes per 7 lbs.	1·91	6½d.
Eggs per dozen	6·60 to 9·00	2s. 6d.
Onions per lb.	0·50	2d.
Cabbage „	0·27	1½d.
Carrots „	0·27	2d.
Tomatoes per lb.	2·27	4d. and 6d.
<i>Dress</i>		
Men's winter coats	500 to 1,500	£1, 10s. to £3, 10s.
„ water-proofs	200 to 300	14s. 6d. to £1, 1s.
„ suits	700 to 1,200	£1, 10s. to £3, 15s.
„ hats	25 to 40	5s. 6d. to 7s. 6d.
„ boots and shoes	150 to 300	8s. 11d. to 18s. 11d.
„ shirts	32 to 46	3s. 11d. to 8s. 11d.

Sir Walter says: "Taking the table of *minimum* prices as a whole, the Russian has to work at least four times as long as the British worker to purchase the same commodities" (see pages 391—393).

surpassed the leading capitalist countries.

In course of time Russia may be expected to improve her industrial organisation, but certain defects are inherent in State-capitalism, to judge from the Russian experiment.

First, the entire State machinery in Russia is run by the bureaucracy. And the bureaucrats are mostly members of the Communist Party. Factory directors must belong to the Party; 75—80 per cent of students and professors of the principal Universities either belong to the Communist Party or to the League of Communist Youth. The principle of selection thus is not the same as under free competition. A man may be a very efficient factory director, but he would lose his job in Russia if he ceased to believe in communism.

Second, inefficient businesses are not eliminated. If the cost of production in a business is higher than the price of the product fixed by the State, the loss is met from the profits of other businesses in the same industry. Under capitalism the individual enterpriser must bear his entire loss, and if he is not able to bear it, disappear. The dread of loss and the expectation of profit are more powerful incentives to work than a 'director's fund'² consisting of contributions from profits.

²Florinsky says: "The decree of April 19, 1936, established in every enterprise a 'director's fund' to consist of contributions from the 'profits.' An enterprise that has fulfilled its assignments retains 4 per cent. of the 'planned profits' which are paid into the 'director's fund.' If the 'profits' exceed those planned, the 'director's fund' benefits to the extent of 50 per cent of the surplus 'profits.' The fund is spent on housing for the workers and employees of the enterprise, on cultural activities, distribution of bonuses, and technical improvements. A personal interest is thus created, encouraging the employees to strive for the fulfilment and over-fulfilment of the plan. This ingenious device extends to the enterprises the principle of Article 12 of the Constitution: 'From each according to his ability, to each according to his work.' It does nothing, however, to relieve the plight of those enterprises—and their number appears to be very large—that prove unable to fulfil their assignments. Their directors and communist leaders are likely to find themselves in the concentration camps in the Arctic region or in Siberia, or, if they are lucky, to be merely demoted. But since enterprises are to continue in business their deficit in some form or other must be made good by appropriations from the budget." (*Towards an Understanding of the U. S. S. R.*, pages 182-83).

Third, bureaucratic administration is synonymous with red-tapism. In the political sphere red-tapism is a potent cause of delay, waste and inefficiency; in the economic sphere red-tapism reduces productivity and raises costs of production.³

Output in Russia per head of the population is below that of the United States of America. De Basily gives the following figures :

		1935 (Output in tons).		
		(Per Head of the Population)		
		Coal	Pig Iron	Oil
U.S.S.R.	...	0'62	0'07	0'14
U.S.A.	...	3'50	0'17	1'13

The output of cars in Russia is below that of Great Britain or the United States. The figures given by Sir Walter Citrine are 200,000 per annum in Russia, 461,352 in

³ Sir Walter Citrine says: "Naturally, when many of the most important directors of industry have suddenly been removed for alleged 'wrecking activities,' 'failure to keep the plan,' and for shortcomings which in other countries would be put down to the hazards of industrial life, there has been a marked reluctance to take responsibility. Directors now want their instructions confirmed by their superiors in Moscow before they act.

Subordinates too, not unnaturally, want to secure themselves against possible charges in the future, by having their orders confirmed in such a way as to exonerate them should anything go wrong. *Pravda*, on the 6th June, noticed this tendency and commented on the 'unheard-of number of wires and letters from economic administrators who, in every tiny detail, apply for the sanction of the People's Commissariats.' It illustrated how this works in practice by giving an example of the Voroshilov Locomotive Works. 'The Director gives an order to the Head of a Department, to the Engineer, to the Foreman. Instead of carrying out the order immediately, the subordinate demands a document.' This tendency to pass on responsibility has led in turn to a certain amount of dislocation; parts did not come along at the right moment; workers were standing idle and labour discipline slackened as a consequence. Desertions from the factories and loss of working time considerably increased.

These are not the fanciful stories of enemies. They have been attested to by the Russian press frequently during the past year. *Pravda* ascribed the slackening up in the Donetz mines mainly to bureaucratic administrators, while the Council of People's Commissars blamed the Directors for not enforcing the laws against idling." (*I Search for Truth in Russia*, pages 373-74).

the United Kingdom and no less than 4,454,535 in the United States.

Suppose we nationalise land and capital in India. The state or the bureaucracy will become directly responsible for working the entire economic machine. Socialism cannot do without a vast bureaucracy. And the bureaucrats will have tremendous power. Conceivably they may be inefficient and corrupt. Conceivably they may eat up a large proportion of the total income of the country. Conceivably they may constitute a privileged class, to whose wishes and comfort everything else is subordinated. Such a society would not be class-less. It would not be a socialist society either. It would be a tyranny, where a ruthless, powerfully organised minority holds down the masses of workers in subjection. No private individual may own instruments of production, or all may jointly own all the apparatus of production. But it is income on which one lives, not on the principle of State ownership, or the feeling that one owns, with the rest of the society, $1/180$ or $1/400$ millionth share in all tools and implements.

✱ Nationalisation of land and capital in itself does not end exploitation.

To say the least the Russian experiment is not encouraging.

Even if it is argued that nationalisation of land and capital has ended completely and for ever the exploitation of man by man in Russia, and raised the standard of living of the Russian worker immeasurably above that of workers in the most advanced capitalist country, it does not follow that it must produce the same results in India. The Russian bureaucracy may be the most efficient, selfless and honest bureaucracy in the world, but it is *our* bureaucracy that would have to work our system, not the ideal Russian
✓ bureaucracy.

An Indian bureaucracy could not be trusted to efficiently manage industries. The reasons may be briefly stated. They are based on facts which are so well known that
✱ detailed explanation is superfluous :

1. Danger of corruption.
2. Nepotism.

3. Communalism. -

No sudden transformation of our character will take place on winning *swaraj*. Honest and efficient men may be found to direct agriculture and industry, to control production and distribution. But the taking over by the State of all agricultural and industrial production is a far more difficult undertaking. For one bureaucrat required for controlling economic activity, 50 would be required for managing industry. The danger of corruption and inefficiency is increased in the same proportion.

4. SURPLUS VALUE

Marx viewed profits as exploitation. He used the concept of 'surplus value' as a standard for measuring the degree of exploitation of labour by capital.

How does 'surplus value' arise? We shall take Marx's own illustration.

A spinner buys 10 lbs. of cotton for 10s. The price of cotton represents a certain amount of socially necessary labour. Spinning causes wear and tear of the spindle, say a value of 2s. If the quantity of gold represented by 12s. is produced in two days' labour, then the raw material and wear and tear of machinery are equal to two days' labour.

Suppose the value of the labour-power sold is 3s. for 6 working hours. In 6 hours the worker transforms the cotton into yarn. The value added by him to the cotton is thus 3s. The total value of the product is $2\frac{1}{2}$ days' labour. The gold value corresponding to this is 15s.

"Our capitalist stares in astonishment."⁴ He earns nothing for himself, for the price at which yarn is sold, $1\frac{1}{2}$ s. per lb., corresponds exactly to its value, leaving nothing for him.

There is no profit for the employer if 3s. is paid for a 6-hour labour-process. He, therefore, provides means of production requisite for a 12-hour labour-process, paying the worker not more than 3s. as before. In 12 hours, 20 lbs. of cotton are transformed into 20 lbs. of yarn. Raw

⁴ *Capital*, Vol. I, Kerr. ed., p. 212.

cotton costs 20s. and wear and tear is represented by 4s. In all 20 lbs. of yarn embody 5 working days (raw cotton and wear and tear of spindle 4 days, and labour one day), and the value of the yarn is 30s. But the employer has spent only 27s. "The value of the product is one-ninth more than the values advanced to effect its production," says Marx. "As a result 27s. have been transformed into 30s. A surplus value of 3s. has been added. The trick has at last been successful, money has been changed into capital."⁵

The rate of surplus value is defined in *Capital*, Vol. I, as "the degree of exploitation of labour-power by capital, or of the exploitation of the worker by the capitalist."

When the labourer works half of every day for himself, and the other half for the capitalist, the degree of exploitation, or the rate of surplus value, is 100 per cent.

If profits are nothing but surplus value, and if surplus value arises on account of the exploitation of labour in the manner explained by Marx, it follows that the greater the number of labourers employed in a business, the higher must be the rate of profit.

According to Marx, as we already know, the total capital employed in a business or industry consists of two parts, variable capital, which is capital advanced to labour in the form of wages, and constant capital, under which term Marx includes the charges on account of raw materials as well as fixed capital. Where more labourers are employed and less machinery, the proportion of variable capital to constant capital would be higher than where comparatively less labour and more machinery is used. Let us designate variable capital by v and constant capital by c . The technical or organic composition of capital in any business, industry or 'sphere of production' is shown by the proportion of v to c . If the Marxian theory of exploitation is true, then the rate of profit should be high where the proportion of v to c is high, and it should be low where this proportion is low.

5. THE GREAT CONTRADICTION

Marx himself says :

"If a capital consisting of percentages of $90c + 10v$ produced as much surplus value, or profit, with the same degree of exploitation, as a capital consisting of percentages of $10c + 90v$, then it would be as plain as daylight that the surplus value, and value in general, must have an entirely different source than labour, and that political economy would then be without a rational basis."⁶

Actually, however, we do not find rates of profits in different businesses or industries varying according to the ratio of v to c . And Marx knew that. How does he explain the 'Great Contradiction'?

On account of differences in the organic composition of capital "the rates of profit prevailing in various branches of production are very different. These different rates of profit are equalised by means of competition into a general rate of profit, which is the average of all the special rates of profit."⁷

The aggregate profits of a business in which more capital is invested are greater in proportion to the amount of its capital, but the rate of profits is the same for all businesses. Marx compared capitalists to shareholders in a joint-stock enterprise. The rate of profit or dividend is the same for all shareholders, but the amount of profit or dividend varies according to the number of shares owned by each.

This division of surplus value among, brother capitalists at the same average rate of profits is 'capitalist communism,'⁸ an exceedingly happy term. Capitalists are enemies of communism when it is a question of equal division of all wealth among the members of a society, but they act like good communists in the appropriation of surplus value.

Marx's thesis is untenable, or his whole theory of exploitation is wrong.

According to Marx, but for competition, or the pooling

⁶ *Capital*, Vol. III, Kerr. ed., pp. 176-77.

⁷ *Ibid.*, p. 186.

⁸ *Marx-Engels : Selected Correspondence*, p. 243.

of profits among brother capitalists, a capital consisting of percentages $90c+10v$ could not produce as much surplus value or profit, with the same degree of exploitation, as a capital consisting of percentages of $10c+90v$. When, as between two countries, there is no pooling of profits, the rate of profit should vary according to the technical composition of capital. Marx admitted that.⁹

Surplus Value in India and England.—Let us now consider India and England of Marx's time. Our industrial organisation has much improved during the past twenty years. But fifty years ago we had only the beginnings of an industrial system. Much more labour per unit of capital was used in the Indian cotton industry than in Lancashire. Our capital was of a lower organic composition than British capital. Then whatever our rate of profit was, it was distinct from the British rate of profit. The capital invested in the Indian cotton mill industry was almost wholly Indian, and there was no pooling together of profits in Bombay and Lancashire.

In his example Marx takes the rate of surplus value to be 100 per cent in the European country, but only 25 per cent in the Asiatic country (we do not know which Asiatic

⁹ "Let us assume that the rate of surplus-value in some European country is 100 per cent, so that the labourer works one-half of the working day for himself and the other half for his employer. Let us assume, furthermore, that the rate of profit in some Asiatic country is 25 per cent, so that the labourer works four-fifths of the working day for himself and one-fifth for his employer. Let the composition of the national capital in the European country be $84c+16v$, that of the national capital of the Asiatic country, where little machinery, etc., is used, and a given quantity of labour-power consumes relatively little raw material productively in a given time, $16c+84v$. Then we have the following calculation :

In the European country: Value of product $84c+16v+16s$, or 116; rate of profit $16/100$, or 16 per cent. [s =surplus value].

In the Asiatic country: Value of product $16c+84v+21s$, or 121; rate of profit $21/100$, or 21 per cent.

The rate of profit in the Asiatic country is higher by more than 25 per cent than in the European country, although the rate of surplus-value is four times smaller in the former than in the latter. Men like Carey, Bastiat, and others, would come to the opposite conclusion." (*Capital*, Vol. III, p. 178.)

country Marx had in view), that is, while in the European country the labourer worked unpaid for half a day for his employer, in the Asiatic country he worked $\frac{4}{5}$ th of a day for himself and $\frac{1}{5}$ th of the day for his employer. That was not true of India of those days. The degree of exploitation of labour in India was much higher. Hours of work were longer in India than in England and holidays were fewer (15 in India and 88 in England).

We should not be far wrong in supposing that under the conditions of employment and wage-payment then the Indian labourer worked for 6 hours for himself and 12 hours for his master. But, for the sake of argument, let us assume that the degree of exploitation of Indian labour was only 25 per cent greater than that of the Lancashire worker.

The organic composition of Indian capital may not have been so low as suggested in Marx's example, $16c+84v$. It may have been $40c+60v$. We have thus the following reconstructed example :

In the European country, say England,

The value of product $= 84c + 16v + 16s = 116$.

Rate of profit $= 16$ per cent.

In India :

The value of product $= 40c + 60v + 75s = 175$.

Rate of profit $= 75$ per cent.

The rate of profit for India is much higher than Marx's figure for an Asiatic country, 21 per cent. But it would be higher still if the organic composition of Indian capital then was $16c+84v$.

The rate of profit is high on account of the higher degree of exploitation of labour in India. If the same rate of exploitation were assumed for both countries, the rate of profit would be 60 per cent.

In India :

The value of the product $= 40c + 60v + 60s = 160$.

Rate of profit $= 60$ per cent.

Assuming that the average rate of profit in Indian manufacturing industries under free trade was three or four times higher than in England, it is difficult to understand why

manufacturing industries did not succeed in attracting the capital required for their development. On this point there is not the slightest room for doubt or difference of opinion. We had only two large manufacturing industries, jute and cotton. For manufactured goods generally we were dependent on imports. The Industrial Commission said: "The difficulty in raising capital for industries is mainly the measure, even in India, not of the insufficiency or inaccessibility of money but of the opinion which its possessors hold of the industrial propositions put before them."¹⁰ There was no real lack of capital in India, but Indian capital avoided manufacturing industries because profits were insecure. There is no other meaning of the characteristic 'shyness' of Indian capital.

One of the most forcible arguments in favour of protection was that it would remove want of confidence among the owners of capital and make profits secure.

In spite of the lower technical composition of the Indian industry and the higher degree of exploitation of labour the rate of profit in India was lower than in the British industry. The facts of our industrial situation under free trade are not in harmony with the Marxian theory.

Surplus Value in Agriculture and Manufacture.—Instead of different countries we may take two industries in the same country between which there is no competition, but whose technical composition is different, e.g., agriculture and manufacture. It was Marx himself who said in his letter to Engels, dated 30th April, 1868:—

"Those branches of production which constitute national monopolies are exempted from this equalization process even if their rate of profit is higher than the social rate. This is important later for the development of rent."¹¹

Marx developed this point in *Capital*, Vol. III, where he discusses differential and absolute rent. Assuming that the composition of agricultural capital is lower than that of the social average capital, the conclusion follows that "a capital of a certain size in agriculture produces more surplus value,

¹⁰ Report, p. 214.

¹¹ *Selected Correspondence*, loc. cit, p. 244.

or what amounts to the same, sets in motion and commands more surplus labour (and with it employs more living labour) than a capital of the same size in industry of social average composition."¹²

Let us assume, with Marx, that the average composition of non-agricultural capital is $85c+15v$, and the rate of surplus-value 100 per cent. Then the price of production is 115, and 15 per cent is the rate of profit. If the composition of agricultural capital was $75c+25v$, and the rate of surplus value 100 per cent as in the case of non-agricultural capital, the value of the agricultural product would be 125, and the rate of profit 25 per cent. The rates of profit would be different because there is no equalization of profits in the two cases: "If the agricultural and the non-agricultural product should be levelled to the same average price (we assume for the sake of brevity that the total capital in both lines of production is equal), then the total surplus value would be 40, or 20 per cent upon the 200 of capital. The product of the one as of the other would be sold at 120."¹³

It again appears that on account of the lower technical composition of agricultural capital, the rate of profit must be higher in agriculture, given the same rate of exploitation of labour in the two cases.

Actually the rate of profit in industries is two or three times higher than in agriculture, and that is why agricultural countries stand to gain by industrialization. India is energetically pursuing this policy. For the same reason industrialisation is such a prominent feature of Soviet planning.

If it is admitted that industry is more productive than agriculture, what becomes of Marx's argument that agriculture produces more surplus-value than industry? Most certainly the technical composition of agricultural capital is lower than that of industrial capital. More human labour is used in agriculture in proportion to constant capital than in industry. Since there are more labourers to exploit, more surplus-value must be created, and a higher rate of profit realized. And yet, when facts are examined, the reverse is

¹² *Capital*, Vol. III, p. 882, Kerr Ed.

¹³ *Ibid.*, p. 887.

found to be true !

The whole superstructure of exploitation raised by Marx on the the foundation of a ridiculous dialectic falls to the ground.

6. RENT AND PROFIT

In *Capital*, Vol. III, Marx contrasts the landlord who enjoys surplus-value from land, or rent, with the capitalist who enjoys surplus-value in industry, or profits: "The capitalist performs at least an active function himself in the development of surplus-value and surplus products. But the landlord has but to capture his growing share in the surplus produce and the surplus-value created without his assistance."¹⁴

Agricultural production does not depend upon the existence of a class of landlords who render no services either to the land or to their tenants. But a capitalist, who is himself an active functionary in the creation of surplus value, is not a parasite in the same sense. If he were not there, less value would be produced. He may be regarded as a creator of value. How does he create value?

In Marx's own words, the would-be capitalist 'with the keen eye of an expert' selects the means of production and the kind of labour-power best adapted to his particular trade. The labourer works under the 'control' of the capitalist, "the capitalist taking good care that the work is done in a proper manner, and that the means of production are used with intelligence."¹⁵ When many labourers are working under a master, there is scope for greater division of labour and specialisation of machinery. 'Control' means method, order, discipline. There is avoidance of waste. Rationalisation and scientific management increase the productivity of labour. That is how surplus-value is created. That is how ten or a hundred men working separately, each on his own account, would create less value than when working together under expert management.

¹⁴ *Capital*, Vol. III., p. 748, Kerr. Ed.

¹⁵ *Ibid.*, Vol. I., Kerr Ed., pp. 205-206.

7. GENERAL VIEW OF DISTRIBUTION

Distribution is concerned with the earnings of factors of production, land, labour, capital and enterprise, but in the end these earnings are enjoyed by persons. Assuming free competition, the law of marginal utility governs distribution; no relation can be established between 'efforts and sacrifices,' or real cost, and the remuneration of factors.

Under a system of private ownership, when pressure of population on the land is constantly increasing, a high price has to be paid for the use of land. There is no connection between the high marginal utility of land and 'efforts and sacrifices' of landowners.

We possess no standard for measuring 'efforts and sacrifices' involved in saving.

Increase in the numbers of any class of workers, including entrepreneurs, lowers their marginal utility. Society as a whole is a gainer thereby, but the workers concerned have to accept a lower rate of payment even when they work as hard, or even harder than before.

Distribution according to marginal utility often produces results which violate our sense of justice.

It may be argued that in the long run everyone tends to be paid what he is worth, but the long run may prove to be a very long run indeed. Further, the wages that one gets are always wages at a particular time.

At any particular time, a year hence, or twenty years hence, earnings of different agents of production will bear a certain relation to one another. What grounds have we to assume that these earnings will then more fully represent real costs than at present? The present situation is a long period result from the point of view of the past.

The existing distribution of wealth gives rise to grave inequalities and dissatisfaction. How can it be made more just?

Suppose we invest you with dictatorial powers to bring about a better distribution of wealth. How will you proceed?

Perhaps you favour equal distribution of wealth. This is the ideal of communism, and it is a very high ideal.

Small communities, owning property in common and sharing wealth equally, have existed in the past. In most cases these communities were composed of individuals who were not interested in the goods of this world.

✧ Suppose there is a community of saints who have, in accordance with the teachings of the *Bhagwad Gita*, withdrawn their senses from the objects of the senses, to whom there is no difference between gold and clay or stone (समलोष्टश्मकश्चनः) who live in the world but are not affected by it, (पद्मपत्रमिवाम्भस्त) and who work from a sense of duty alone, or for the purification of the self, without any interest in the fruits of action.

In such a community every one may work according to his capacity and consume according to his need and no quarrels will arise. An absolutely equal sharing of wealth presupposes a high degree of indifference to wealth.

Such indifference to wealth has not only been preached but practised in the past by saints of all religions.

Tazkarat-ul-Aulia relates a meeting between Sheikh Abul Hassan Khaqani and Mahmud Ghaznavi, which took place in the Sheikh's monastery. At the end of the meeting Mahmud placed a bag of gold before the Sheikh and said, 'Take it.' The Sheikh, it is related, placed barley-bread before the king and said, 'Eat it.' Mahmud took a piece, but it stuck in his throat. The Sheikh would have nothing to do with the gold; he would relish it as little as Mahmud did his bread. "Take it away," he said, "I have renounced it." Mahmud pressed him to take a little, but he would have none of it :

میخواهی که ما را ای بد ره زر تو نیز در گلو بگیرد ؟
 که این را طلاق داده ایم - مجود گفت چیزے قبول کن - گفت
 نکم -

Equal distribution is possible if communists are inspired by the spirit of the author of *Gulshan-i-Raz* :

بدونان ده مرایی دنیای غدار که جز سگ را نشاید داد مردار

"Leave this unfaithful world to the mean, for carrion is thrown only to dogs."

or if they can say with Maulana Rum :

گر بُرد مالتِ عُدوے رهنے رهنے را بُرده باشد رهنے
چه بود آن بانگِ غولِ آخربگو مال خواهم جاه خواهم آبرو
از درون خویش این آوازا منع کن تا کشف گردد رازها

"Should a thief steal thy goods, a thief has carried away a thief.

"Say, what is the meaning this ghou's cry, 'I want wealth, I want position, I want honour?'

"Pay no heed to such cries from within, so that secrets may be revealed to thee."

India, in spite of her religious discipline of several thousand years, and the example of religious leaders of the highest rank, has failed to attain this ideal. Russia, denying religion, tried equal distribution of wealth and failed. Human nature must be completely transformed before wealth can be shared equally.

We are thus left with two other principles—real cost and productivity.

Suppose the only form of labour that entitles one to a share in the national dividend is hand-spinning. Then shares may be assigned according to the effort put forth by each spinner, or according to the quantity of yarn produced by each.

During the same time one hand-spinner may produce more yarn than another. Will it be just to remunerate the two equally?

Assuming that a standard output for a given time has been fixed, will you or will you not reward a spinner for exceeding the standard?

If you do, payment is according to productivity, not according to labour.

One may work faster than another because one's fingers move more quickly. The effort of mind and body put forth may even be less.

Any society which aims at increasing production in order to raise the standard of living of the masses, would have to adopt a system of payment which apportions rewards according to results. The greater the contribution made by any one

to the national dividend, the richer must be his reward.

Incomes can never be equal. All that can be done is (a) to reduce gross inequality of incomes, (b) to prevent the accumulation of large fortunes, (c) to suppress income without effort, and (d) to guarantee wages to every one which shall not be below a fixed minimum. The existence minimum must depend upon the amount of wealth produced annually. In a poor country it will be low, but it will rise as the scale of wealth production rises.

8. DISTRIBUTION UNDER SOCIALISM AND COMMUNISM

The terms socialism and communism are often loosely used, and the confusion is encouraged by writers who should know better. The title of the well known work on Russia by the Webbs, *Soviet Communism*, is misleading. Even the leaders of Soviet Russia do not claim that they have realised communism. What they say is that they are marching on 'towards the glowing dawn of communist society.' In the concluding portion of his report to the 18th Party Congress of the Soviet Union, Stalin said: "We are going ahead towards communism;" he did not say that they had achieved communism. How they are going ahead towards communism in spite of a money economy, progressive piece-rates, cadres, rank and privilege, interest and inheritance, is a little difficult to understand.

Means of production are owned in common in the Soviet Union. If this is the whole content of socialism, then the U.S.S.R. is a socialist country. But socialism is incompatible with bureaucratic despotism. A real socialist society is a workers' democracy. Russian democracy is of the same type as German or Italian democracy (at the elections held in 1937 each seat was contested by a single candidate or 'Stalin was the candidate everywhere'). In the absence of opposition Russia is governed by a small Party and its Dictator, assisted by privileged bureaucrats, mostly members of the same Party. This is a travesty of socialism. Since the State owns all means of production, the Russian system may be correctly described as State-capitalism.

If, however, we regard common ownership of means of production as the only test of socialism, Russia is a socialist country. Let us so regard it. What is the principle of distribution in a socialist society?

We have seen that the piece-wage is the most important method of wage-payment in Russia. Piece-wages mean payment by results, by productivity. Payment by results is not payment according to the Labour Standard.

The Labour Standard.—Labour, to serve as a measure, as Marx said, 'must be defined by its duration or intensity, otherwise it ceases to be a standard measure.'¹⁶ The yard is our measure of length. It is invariable, or supposed to be so. Similarly, we may have a measure of labour, defined in terms of duration, normal intensity being assumed. Eight hours' labour, suppose, is the unit, and the remuneration for labour of that duration is, suppose, one rupee. Then if every one who works for eight hours is paid one rupee, irrespective of the quantity of work turned out by him, the labour standard is in operation. But if wages vary according to output, productivity is the standard, not labour.

Owing to natural differences in the physical and mental capacity of workers (spinners in our illustration), a lower degree of pain and effort may be associated with a higher degree of productivity. Payment according to results is payment according to labour only if we assume (what we have no right to do) that greater productivity is the result of greater labour, or greater efforts and sacrifices.

Different kinds of labour cannot be reduced to the same standard. There is no rational basis on which we may compare with one another the labour of a Dictator, a Soviet Commissar, a technician, a general, a judge, a physician, a soldier or sailor, a cinema artist, a poet, a painter, a journalist, a factory director, a skilled worker, and an unskilled manual worker.

The U.S.S.R. has failed to evolve a standard for measuring labour in terms of intensity or duration and, therefore, wages are paid in that country according to results where

¹⁶ Critique of the Gotha Programme, p. 30.

the piece-wage system is applicable, and according to estimated marginal worth of the worker to the community in all other cases. If Commissars and Soviet generals are paid more than the common workman in the U.S.S.R., it is because the marginal worth of their contribution to wealth production is supposed to be higher than that of common workmen—even though a tangible measure of this contribution does not exist.

Marx discusses an 'equitable distribution' of wealth in his *Critique of the Gotha Programme*.

Are workers entitled to the whole 'proceeds of labour'? No. From the total social product certain deductions have first to be made. They are:

1. Reimbursement for the replacement of the means of production used up.
2. An additional portion for the extension of production.
3. Reserve or insurance funds to provide against misadventures, disturbances through natural events and so on.

The socialist State must make provision under each of these heads. This provision is also necessary under capitalism. It is made by individual capitalists out of their gross receipts.

"These deductions from the 'whole proceeds of labour,'" says Marx, "are an economic necessity and their magnitude can be determined by existing means and forces and partly through the calculation of probabilities, but they are under no circumstances calculable by equity."¹⁷

Three further deductions are necessary from what is left:

"Firstly, the general costs of administration not appertaining to production."

Where the general administration is corrupt and inefficient, deduction on this account will be heavy. Marx himself thought that this proportion, in a socialist State, would be considerably less than what it is in a capitalist society.

"Secondly, what is destined for the satisfaction of communal needs, such as schools, health services, etc."

"Thirdly, funds for those unable to work, etc., in short,

¹⁷ *Critique of the Gotha Programme*, p. 27.

what comes under the heading of so-called official poor-relief to-day."

Poor-relief of Marx's times has to-day developed in a country like England into an imposing edifice of social insurance.

The 'whole proceeds of labour' have thus been transformed into 'part of the proceeds.' What is an 'equitable distribution' among workers of this 'part of the proceeds'? Marx lays down the following principle:—

"The individual working-time of the individual producer is that part of the social working-day contributed by him, his part thereof. He receives from society a voucher that he has contributed such and such a quantity of work (after deductions from his work for the common fund), and draws through this voucher on the social storehouse as much of the means of consumption as the same quantity of work costs. The same amount of work which he has given to society in one form, he receives back in another."¹⁸

This is distribution according to labour, not results. For if it were piece-wages that Marx had in his mind, he could have easily said so. As we have seen, Marx condemned the piece-wage as a method of payment most in harmony with the capitalist system.

The goods in the social storehouse embody social labour. The voucher received by the workman enables him to exchange equal quantities of labour in one form for equal quantities of labour in another form.

Marx is careful to explain that equal right to the social product does not mean equality in distribution under socialism:

"The right of producers is *proportional* to the amount of labour they contribute; the equality consists in the fact that everything is measured by an equal measure, labour."¹⁹

As the result of the application of 'an equal standard,' labour, inequalities in incomes will arise. These defects are unavoidable under socialism, or in a society which has not developed on a basis of its own but grown out of capitalism.

¹⁸ Critique of the Gotha Programme, p. 29.

¹⁹ Ibid., p. 30.

Socialism may be viewed as the first stage of communism. Marx goes on:

"In a higher phase of communist society, after the tyrannical subordination of individuals according to the distribution of labour and thereby also the distinction between manual and intellectual work, have disappeared, after labour has become not merely a means to live but is in itself the first necessity of living, after the powers of production have also increased and all the springs of co-operative wealth are gushing more freely together with the all-round development of the individual, then and then only can the narrow bourgeois horizon of rights be left far behind and society will inscribe on its banner: "From each according to his capacity, to each according to his need."²⁰

When will the U.S.S.R. enter the final phase of communism, having completed the first? Who knows? No definite limit can be assigned to the 'epoch' of socialism, or, shall we say? State-capitalism. The decision does not rest with the U.S.S.R. So long as a socialist country is surrounded by capitalist foes, the State cannot 'wither away.' The Soviet State, in any case, has not, as yet, shown the slightest signs of 'withering away.'

Socialism in one country cannot develop into communism, unless socialism triumphs in other countries too.

Further, unless human nature is transformed by socialism, as soon as society inscribes on its banner: 'From each according to his capacity, to each according to his need,' the springs of co-operative wealth may begin to dry up instead of gushing more freely. What evidence of such transformation is furnished by the Soviet Union? Will the 'chase after the rouble' under progressive piece-rates bring about this transformation?

²⁰ *Critique of the Gotha Programme*, p. 31.

APPENDIX TO CHAPTER XXVII

Communitic Societies of the United States

An account of communistic societies of the United States from a personal visit and observation is given in an old book (1875) bearing that title by Charles Nordhoff.

Icaria, referred to contemptuously in the *Communist Manifesto*, was a small community of 65 individuals, mostly Frenchmen and Frenchwomen. The Amana and several other communities were founded by Germans. There were also communistic societies of born Americans, e.g., the Shakers, the Perfectionists and the Aurora and Bethel Communes.

The Icarians had no religious observances. Luxury was prohibited by their constitution, 'but', says Nordhoff, 'they have not been much tempted in that direction. They use tobacco, however.'¹

The Shakers discouraged the tobacco-chewing habit, and their journal faithfully recorded the event when the tobacco-chewing habit 'died' in any group of 'much-beloved brethren,' 'by the power of truth, and for the cause of Human Redemption.'²

In all communistic societies, property was held in common. Members on permanently joining a society were required to hand over their earthly possessions to the Trustees, or President or the controlling body. The Society undertook to meet their needs, which were of the simplest character.

All were required to labour. The Amana Community owned several villages (25,000 acres). 'It is supposed,' says Nordhoff, 'that the labour of each village produces a profit; but whether it does so or not makes no difference in the

¹ Nordhoff, *loc. cit.* p. 338.

² *Ibid.*, p. 167.

supplies of the people, who receive everything alike, as all property is held in common.' He 'found it generally true that the members of communistic societies take life easy.'³

The Amana Community had framed twenty-one "Rules for Daily Life." A few are reproduced below:—

"V. To abandon self, with all its desires, knowledge, and power.

"X. Count every word, thought, and work as done in the immediate presence of God, in sleeping and waking, eating, drinking, etc., and give Him at once an account of it, to see if all is done in His fear and love.

"XVI. Have no intercourse with worldly-minded men; never seek their society; speak little with them, and never without need; and then not without fear and trembling.

"XVII. Therefore, what you have to do with such men, do in haste; do not waste time in public places and wordly society, that you be not tempted and led away.

"XVIII. Fly from the society of women-kind as much as possible, as a very highly dangerous magnet and magical fire.

"XIX. Avoid obeisance and the fear of men; these are dangerous ways.

"XX. Dinners, weddings, feasts, avoid entirely; at the best there is sin.

"XXI. Constantly practise abstinence and temperance, so that you may be as wakeful after eating as before."⁴

The Harmony Society, in admitting a new member, exacted a complete confession of sins to one of the elders of the Society. They held that the coming of Christ and the renovation of the world were near at hand. In that faith and conviction the Harmonists lived in harmony and peace. They lived economically. As one of them said:

"As each labours for all, and as the interest of one is the interest of all, there is no occasion for selfishness and no room for waste. We were brought up to be economical; to waste is a sin; we live simply; and each has enough, all that he can eat and wear, and no man can use more than that."⁵

The Separatists of Zoar were so called because they had separated themselves from all ecclesiastical connections and constitutions. The members of their first or probationary class did not give up their property. They bound themselves to labour, obey and carry out the orders of the Trustees of

³ Nordhoff, *loc. cit.*, p. 37.

⁴ *Ibid.*, pp. 50-51.

⁵ *Ibid.*, p. 90.

the Society, and the Trustees, on their part, agreed to provide board and clothing free of cost, and also medical attendance and nursing in case of sickness. "Good moral conduct, such as is enjoined by the strict observance of the principles of Holy Writ" was also promised by both parties, and it was stipulated that "no extra supplies shall be asked or allowed, neither in meat, drink, clothing, nor dwelling (cases of sickness excepted); but such, if any can be allowed to exist, may and shall be obtained (by the neophytes) through means of their own, and never out of the common fund."⁶

On being received into full membership, the probationer handed over all his property to the Trustees. The constitution of the Society was republican and all officers were elected by ballot. The Trustees managed all the affairs of the Society. They were bound to provide board, clothing and dwelling for each member 'without respect of persons.'

The Society did not look on marriage with favour but no penalty was inflicted, nor any disability imposed, on members who chose to marry.

The Perfectionists strove for the immediate and total cessation from sin. They held that intercourse with God could proceed so far as to destroy selfishness in the heart and so make an end of sin, and that was why they called themselves 'Perfectionists.'

Of all Communistic societies the Perfectionists alone extended the community system beyond property—to persons. They affirmed that there was 'no intrinsic difference between property in persons and property in things; and that the same spirit which abolished exclusiveness in regard to money would abolish, if circumstances allowed full scope to it, exclusiveness in regard to women and children.'⁷

'Complex marriage' was the rule among the Perfectionists. They condemned 'exclusive and idolatrous attachment' of persons to each other as evidence of sinful selfishness.

The propagation of children was controlled by the Society. Nordhoff seemed to miss in their children the

⁶ Nordhoff, *loc. cit.*, p. 105.

⁷ *Ibid.*, pp. 271-72

exclusive love and care of a father and mother. It may have been his fancy, but he adds: "A man or woman may not find it disagreeable to be part of a great machine, but I suspect it is harder for a little child."⁸

→ At one time in Russia, after the Revolution, the relations between the sexes were loose, but things never went so far as among the 'Perfectionists.'

In the Aurora Commune all worked for the common good, and were supplied with their requirements from the common stores. Nordhoff asked the purchasing agent about the book-keeping of the Society. He said: "As there is no trading, few accounts are needed. Much of what we raise is consumed on the place, and of what the people use, no account is kept. Thus, if a family needs flour, it goes freely to the mill and gets what it requires. If butter, it goes to the store in the same way. We need only to keep account of what we sell of our own products, and of what we buy from abroad, and these accounts check each other. When we make money, we invest it in land."⁹

Tea, coffee and sugar were rationed to each family. Each family had either a house, or apartments in one of the large houses. Each had a garden patch, and kept chickens; and every year a number of pigs were set apart for each household, according to its number. Nordhoff found an abundance of good, plain food everywhere.

Idlers and dissolute persons generally left the Society, or were got rid of.

Nordhoff asked the President of the Society, Dr. Keil, whether there were no disagreements from envy or jealousy among them. Dr. Keil replied:

"Very seldom now; the people have been too long and too thoroughly trained; they are too well satisfied of the wisdom of our plan of life; they are practised in self-sacrifice, and know that selfishness is evil and the source of unhappiness. In the early days we used sometimes to have trouble. Thus a man would say, 'I brought money into the society, and this other man brought none; why should

⁸ Nordhoff, *loc. cit.*, pp. 281-82.

⁹ *Ibid.*, p. 315.

he have as much as I'; but my reply was, 'Here is your money—take it; it is not necessary; but while you remain, remember that you are no better than he.' Again, another might say, 'My labour brings one thousand dollars a year to the Society, his only two hundred and fifty'; but my answer was, 'Thank God that He made you so much abler, stronger, to help your brother; but take care lest your poorer brother do not some day have to help you, when you are crippled, or ill, or disabled.'¹

The Amana Society departed from strict communist principles in making an allowance in money from 40 to 100 dollars to each adult male for clothing. Smaller allowances for the same object were fixed for women and children. 'Vanities of apparel,' however, were strictly controlled and young girls were not allowed to buy or wear ear-rings or breast-pins. Food was distributed to the houses according to the number of persons eating in each.

Generally these communistic societies were successful. The founders of the Amana Society came from Germany in 1842. Karl Diehl² notes that this Society still existed in 1907.

¹ Nordhoff, *loc. cit.*, p. 314.

² *Ueber Sozialismus, Kommunismus und Anarchismus* (Jena 1922) Chapter II.

CHAPTER XXVIII

FUNCTIONS OF GOVERNMENT

In this part of the book we are concerned with the science of finance, which treats of public expenditures and public income and all questions related to such expenditures and income. Broadly, there are two main questions to be answered :

1. What are the necessary wants of a State ?
2. How are these wants to be best supplied ?

1. WANTS OF A STATE

In the first chapter of the book we considered three principal forms of economy—capitalism, State-capitalism and State-controlled capitalism. The character and wants of the State differ according to the form of economy. For example, the State under State-capitalism, as in the Soviet Union, owns and manages all industries. The budget of the Soviet Government would differ in many important particulars from the budgets of other governments.

There is another form of economy, communism, in which the state disappears, and governmental functions transform themselves into simple administrative functions. This happens when socialism succeeds in abolishing class-distinctions and class-antagonisms. When a class-less society has been brought into existence, the State is no longer needed, since nothing more is to be repressed.¹ The State falls asleep.

¹ Engels says: "The first act by virtue of which the State really constitutes itself the representative of the whole of society—the taking possession of the means of production in the name of society—this is, at the same time, its last independent act as a State. State interference in social relations becomes, in one domain after another, superfluous and

But even under communism the State cannot utterly vanish without leaving a trace. It will exist in the form of a book-keeper, or a joint-stock company, and, as such, must have a budget, or, let us say, a balance-sheet. The State will shed its political functions, but it will still require revenues to fulfil its economic or administrative duties.

Whatever, then, the form of economy, the wants of the State have to be supplied.

The wants of the State should not be misunderstood. The State, as such, has no wants. The wants of the State are the wants of the people it represents.

Let us study the wants of the Punjab Government, as an example. In introducing the budget estimates of the Punjab for the year 1941-42 the Hon'ble Sir Manohar Lal, Finance Member, said: "In the forefront stands steady increase in beneficent expenditure. This expenditure has steadily risen from Rs. 3,08 lakhs in 1937-38 to Rs. 3,59 lakhs in 1941-42, i.e., a rise of Rs. 51 lakhs in spite of the heavy burden of famine, and now of both famine and war."

The beneficent expenditure of the Punjab Government is money spent on the following Departments (also called 'nation-building departments'), Education, Medical, Agriculture, Public Health, and Industries.

The Punjab Government is responsible for law and order in the province and, for that purpose, must maintain law courts, jails and a police force. In addition, it takes care of forests and supplies canal water to agriculturists from the canals which it owns and operates.

The wants of the Punjab Government are shown by its annual expenditure.

The primary duty of the Central Government is to protect the country against foreign aggression. Of the budgeted revenue in 1941-42 amounting to Rs. 1,06,39 lakhs, no less than Rs. 84,13 lakhs is accounted for by the Defence

then of itself falls asleep (*und schlaeft dann von selbst ein*), the government of persons is replaced by the administration of things and by the conduct of processes of production." *Socialism Utopian and Scientific* (Sonnenschein, 1892), p. 75.

Services.² But the Government of India owns and operates certain railway lines, manufactures salt, carries letters and telegrams, and issues metallic currency.

The wants of the Government of the United Kingdom are on a much bigger scale than those of the Government of India and include items which do not appear in our budget. The peace-time expenditure of the Government of the United Kingdom exceeds £900 millions, of which one-fifth or more is represented by Social Insurance.

2. FUNCTIONS OF GOVERNMENT

Public expenditures are related to governmental functions. The main governmental functions are three,—Protective, Commercial and Developmental.

Protective Functions. Protective functions may be considered under three sub-heads: (a) protection against foreign aggression, (b) protection of life and property of citizens, and of all those rights which the citizens enjoy under the law of the land; and (c) protection against the spread of disease, either physical or social.

The sub-head (a) explains military expenditure and (b) police and, court expenditures. Sanitary regulations and public health expenditure would come under (c), but 'social disease' is capable of a wider interpretation. Crime is a social disease, and so is pauperism. In this sense expenditure on the social services (poor relief, old-age pensions, etc.) is of a protective character.

Commercial Functions. Examples of commercial functions have been given above. The administration of forests, mines, and of a system of irrigation, when they are a source of income, is a commercial service. Most governments furnish telephone, telegraph and postal services. The

	Rs. in lakhs.
(1) Basic normal budget	36.77
(2) Effect of rise in prices on (1)	3.55
(3) India's war measures	35.40
(4) Non-effective changes	8.41
Total	84.13

administration of savings banks may also be included under this head.

Developmental Functions.—Adams includes five functions under this head :—

1. The function of public education.
2. The function of providing public recreation.
3. The function of ensuring that private business enterprise is conducted in a just and equitable manner.
4. The function of public investigation.
5. The function of developing the physical bases of the State in so far as that cannot be judiciously accomplished by private enterprise.

We may briefly explain these functions.

1. *Public Education.*—Public education is a means of general enlightenment. A system of compulsory primary education helps to discover the potentialities of each child. A system of State aid to education in the form of scholarships to poor and deserving students, annual grants to private institutions, and educational institutions directly established and run by Government, helps in the spread of mass education. In this respect India is far behind the leading countries of the world. According to the Census of 1931, 9·5 per cent of the total population of India were literate. The proportion of *illiterate* persons (all ages 10 and over) was 6 per cent in the United States (1921), 5·7 per cent in the Canada (1921), 5·1 per cent in France (1926), and as low as 2·1 per cent in Australia (1921).

Expenditure on education is an investment, and modern education is one of the most effective weapons in fighting communalism though, curiously enough, many of those who fan the flames of communal hatred are highly educated men!

2. *Public Recreation.*—This includes the provision of public parks and gardens, public libraries and art museums, and the promotion of the fine arts. The utility of State expenditure on these objects is obvious.

3. *Expenditures for maintaining Equitable Conditions for the Prosecution of Private Business.*—When private enterprise is free, it is the duty of Government to ensure that competition is carried on under equitable or fair conditions. No

one to-day quarrels with Government for prescribing the conditions under which work shall be done in factories. Government lays down the conditions under which contracts may be concluded and voluntary associations (e.g., trade unions) established. In certain countries, e.g., Australia and New Zealand, Government stands forth as the final arbitrator in industrial disputes. Adams places also expenditure for the control of monopolies under this head.

4. *Expenditure for Public Investigation.*—By public investigation is meant the collection of information through statistical inquiries and research.

The problem of the better organisation of Indian statistics was examined by two foreign experts, Messrs. Bowley and Robertson, in 1934. They say in their Report: "Though in some branches careful work is being done, and determined efforts made to improve the accuracy and scope of information, in others they are unnecessarily diffuse, gravely inexact, incomplete or misleading; while in many important fields general information is almost completely absent."³

No reliable data are available for forming an estimate of India's national income. We do not know the proportion of taxation in rural and urban areas to rural and urban income and, without this information, equitable readjustment of tax-burdens between the rural and the urban population is difficult of achievement. Statistical data on a large scale can be collected only through government agency, and such expenditure is not a waste of public money.

5. *Expenditure for the Development of the Physical Basis of the State.*—Examples of this expenditure are the construction of canals, the care of forests, the dredging of rivers, the building of docks, light-houses, etc. It is impossible to exaggerate the contribution of canals to the prosperity of the Punjab. Better village roads would facilitate the marketing of agricultural produce. The utility of forests, both direct and indirect, to the country is enormous. The effect of forests on climate, humidity and rainfall is well known. Forests tend to reduce floods, check avalanches,

³ A Scheme for an Economic Census of India, p. 1.

and add to the beauty of a country. The Punjab possesses a 'Special Development Fund,' but 'Development' for the purpose of this Fund has a very restricted meaning. The allotment from the Special Development Fund in 1941-42 will be used in the main for improving drinking water supply in 216 villages, and there is a special provision of Rs. 10,000 for wells for the Scheduled Castes. The activities of the beneficent Departments are mainly of a developmental character.

Some of the functions enumerated above are not mutually exclusive—in fact no hard and fast line can be drawn between one governmental function and another. Education, for example, is a developmental function, but it is also a means of protection against the spread of disease, either physical or social. Social expenditure in the form of Health and Unemployment Insurance is not merely of a protective but developmental character—it increases the productivity of labour. Irrigation may be classed either under commercial or developmental functions, and the same may be said about the issue of currency.

3. SOCIAL AND ECONOMIC FUNCTIONS

Sometimes governmental functions are divided under two main heads, social and economic, but social activities of the State have an important economic bearing, and economic activities have an important social bearing.

In a system of free private enterprise the State has to control some economic activities, and to encourage or supplement others.

Social monopolies are controlled by government, and some of them are assumed by government (e.g., postal, telegraph and telephone services).

The State undertakes economic activities which private enterprise would avoid, e.g., building of strategic railway lines and those which protect a district against famine, and many bridges. Afforestation and checking of coast erosion are other examples.

Coinage has always been regarded as a royal function. The currency should be of standard uniform quality, and

this is best ensured when it is issued by a single currency authority.

The State encourages private enterprise directly by means of bounties and subsidies and indirectly by means of duties on imports. One of the forms of State assistance is a guaranteed minimum of profit. Guaranteed railway companies have built the greater part of our railway system. Exports may be encouraged by means of a bounty. On the recommendation of the Tariff Board bounties were granted to the Tata Iron and Steel Company on the production of steel ingots in 1925-27. In 1862 an attempt was made to promote railway construction in India by means of subsidies in the form of an annual payment for 20 years at a rate not exceeding £100 per mile of line, with an addition in respect of bridges costing more than £10,000.

The State finally enacts laws to facilitate business, e.g., laws limiting the liability of partners and shareholders, bankruptcy laws, and laws relating to company promotion and the publication of certified balance-sheets, as in the case of joint-stock companies.

The State engages in these activities primarily for economic reasons, but the action of the State, even in these cases, has a profound social significance. If the State did not control monopolies and trusts, they would exploit the public. The construction of canals or railways as a means of famine protection is a humane measure.

Factory legislation, the fixing of standard minimum rates of wages, and the entire field of social insurance, provide examples of State action in the social sphere. But such action, at the same time, has a profound economic significance; measures which improve the health and strength of the labouring classes improve the country's capacity to produce wealth.

4. LAISSEZ FAIRE VIEW OF GOVERNMENTAL FUNCTIONS

It will be seen that government activity covers a wide field to-day, both in the economic and the social sense. That is not the view that was taken of the functions of

government in times past. Adam Smith took a very restricted view of the duties of government. The extreme *laissez faire* view again found expression in a pamphlet on financial reform by Sir Henry Parnell, Bart., M.P., published in 1830. The writer denied that the utility of an expenditure was a sufficient justification of it. He would limit State expenditure mainly to that required for maintaining law and order, for protection against foreign attack, and "for securing some public object that could not be had by any other means."⁴

As against this there is the ancient Indian conception of the State, which Asoka tried to realise. In the words of Vincent Smith, Asoka endeavoured "to make India the kingdom of righteousness, i.e., a theocracy without a God; in which government should act the part of Providence, and guide the people in the right way."⁵

"The great error which is commonly committed is taking the utility of an expenditure as a sufficient justification of it; whereas, however useful it may be, if it cannot be shown to be absolutely necessary for securing some public object that could not be had by any other means as economic and as convenient, it is superfluous and ought to be discontinued. It is not an uncommon opinion among those persons who are in situations to have considerable influence in matters of finance that we ought first to secure all the revenue we can, and then regulate the expenditure according to it. Others allow themselves to be guided by their feelings and their passions, and, not having any fixed principles to go by, are continually favouring expense and resisting economy, when cases of apparent individual hardship come before them, not recollecting what those persons suffer who pay the taxes for providing for the effects of their mistaken compassion and unjustifiable liberality with the public money. If right principles were referred to they would suggest that taxation is the price we pay for government; and that every particle of expense, that is incurred beyond what necessity absolutely requires for the preservation of social order and for protection against foreign attack is waste, and an unjust and oppressive imposition upon the public. Every minister and every member of Parliament who has the power to spend or to save the public money, should do all in his power to prevent the wants of the State from depriving the people of the means of providing for their wants; and, therefore, economy and frugality, which are virtues in a private station, become the most pressing of duties." (Quoted by H. C. Adams in *The Science of Finance*, pp. 50-51.)

⁵ *Ancient India*, pp. 169-70.

The Indian view of the ruler or government is frankly paternal. This view would invest the State with unlimited powers of interference, and is, thus, the antithesis of *laissez faire*, which regards the State with suspicion and mistrust, and therefore confines State activity within the narrowest limits.

The State is a grand institution. What it does, or refrains from doing, effects the lives of all citizens. Through public expenditures the State can do a great deal to rectify the injustices and inequalities of the social order. It has powerful means at its disposal for moulding the character of the citizens. It can wean them from communalism; it can put an end to the class-struggle, or civil strife in any other shape or form, by educative propaganda, and by removing the causes of strife. It can industrialise a country and militarise a people. In fact a people are what the State makes them. This is the modern version of the old saying: "As a king, so his subjects" (यथा राज तथा प्रजा)

5. WANTS OF A STATE ARE WANTS OF THE PEOPLE AS A WHOLE

We have said above that the State, as such, has no wants. But it does not follow that the wants of the State are identified with those of every member of the public. It may be assumed that every one benefits from the protective functions of government. But would everyone approve of the payment of a salary to members of the legislature? Some may legitimately regard this practice (as J. S. Mill did) as wrong in principle. The objection to paying a salary to legislators becomes stronger when, as in India, legislators are very often practically illiterate.

Money-lenders would not approve of developmental activities of the Co-operative Department. Those who practise Western systems of medicine would object to State expenditure on indigenous systems. Other examples could be given. State expenditures are expenditures designed to promote the well-being of the community as a whole. They cannot meet the wants of every single member of a community.

6. EXPENDITURE ON THE SOCIAL SERVICES

Expenditure on the social services in the United Kingdom to-day would have made Sir Henry Parnell, Bart., M.P., gasp.

The pros and cons of this expenditure have been long and bitterly discussed. There is no other means of financing costly schemes of social insurance except by high, progressive income taxation and other taxes which force the rich to surrender some of their luxuries so that the less fortunate sections of the community may have necessities and comforts. Economists of repute in the past have denounced progressive taxation; and even to-day it is doubtful if progressive taxation has the whole-hearted approval of what Mr. Keynes has called the 'neo-classical' school.⁶ Prof. Leroy-Beaulieu, writing in 1881, opposed State-financed contributory insurance schemes and old-age pensions for the working-classes. He condemned the use of taxation as an instrument for ameliorating the condition of workers. The State is to deal out strict justice to every one, which means that the worker must shift for himself. All that he may expect the State to do for him is not to obstruct his path to progress, and to prevent others from

⁶ Perhaps it would be more correct to say that the 'pure' science of economics does not concern itself with such questions. Prof. Lionel Robbins says:—"The conception of diminishing relative utility (the convexity downwards of the indifference curve) does not justify the inference that transferences from the rich to the poor will increase total satisfaction. It does not tell us that a graduated income-tax is less injurious to the social dividend than a non-graduated poll-tax." (*The Nature and Significance of Economic Science*, p. 141.) Such is the remarkable verdict of 'pure' economics. British labour, not without reason, views 'pure' economics, and 'pure' economists, with suspicion. This one may gather from a comment, in another connection, in *The New Statesman and Nation*: "These economists are not fools, but just pure economists. They know everything about the science of pure economics and nothing of the old art of political economy; they are largely responsible for the discredit into which the science has fallen. They have no social imagination and therefore no social sympathy, and as a result they have sold the good-will of liberal economics for a mess of analytical pottage" (January 4, 1941, p. 3).

obstructing it.⁷

7. LABOUR VIEW

✱ In spite of all that the State has done in the United Kingdom in the way of social insurance, labour is not satisfied. It wants more—*l'appetit vient en mangeant* (appetite

⁷ In the last chapter of his *Essai sur la Repartition des Richesses* (1881) Professor Leroy-Beaulieu discussed old-age pensions and other forms of social insurance. He thus commented on contributory pensions, which exact contributions both from the employer and the worker.

"On the other hand it is undeniable that the contribution imposed on the employer will, in fact, be paid by the worker, the employer reducing wages by an equal amount. The worker will thus find his income reduced when the cost of living rises on account of increase in taxation. Will all workers willingly support this system, will they look upon their compulsory contribution as a benefit? It will be said that their opinion will not be asked, and that one will do good to them in spite of them. In a democratic regime this reply is not convincing. There is no doubt that, in the end, workers, or at least certain categories of workers, would be gradually relieved of their contribution, and the whole burden will be borne by the State and employers. To that extent taxation will have to be increased.

✱ "Will the object, which is aimed at, be attained even with these sacrifices? Will pauperism be abolished? No, because there will always be weak people who are scarcely able to work, and lazy people who do not wish to work. There will also be thoughtless, imprudent and extravagant individuals who will mortgage their insurance or pension in advance; declaring the latter not distrainable will be of no use—means can always be found to evade the law.

"This system, so passionately advocated and apparently so easy to put into practice, will meet the same fate as all compulsory arrangements, all projects which aim at ameliorating the condition of man without reforming the man himself, his mind and his morals. It will help to discourage private enterprise and life assurance companies, whether based on the principles of joint-stock, or partnership, or co-operation; it will substitute for a flexible, fecund, and inventive organisation of private societies, of private philanthropic institutions, a heavy, dull and lazy State bureaucracy..." (pp 561-62).

"Freedom and time suffice to solve all social difficulties which it is humanly possible to solve. The great danger to-day is State-socialism, that is to say, not the socialism imposed by the passion of masses of workers in revolt, but socialism surreptitiously introduced and gradually developed by presumptuous and ignorant legislators. We are sceptical of extension of State activity; one finds, under government management, more sinecures, more privilege, more inaction, and more arrogance and servility at the same time than under individual-enterprise."

grows with eating)—that would probably have been Prof. Leroy-Beaulieu's comment on labour demands, if he had been living to-day. Organised labour in the United Kingdom is now pressing its claims for family allowances—at the flat rates of, say, 5s. a week for each child, or on an ascending scale per child as the number of children increases. The case has been argued with much ability by Miss Eleanor F. Rathbone, M.P.⁸

Labour's ideal of social justice is essentially different from that of Prof. Leroy-Beaulieu's. "Do we by social justice mean equality of income?" asks Miss Ellen Wilkinson, M.P. "As an ultimate ideal," she answers, "I should say

Prof. Leroy-Beaulieu was opposed to progressive taxation:

"The rôle of the State in regard to the distribution of wealth is very simple: it does not consist in robbing Peter to pay Paul, in using taxation as an instrument for removing social inequalities. When this ideal, favoured by some, is pursued by the State, the State becomes a disturbing element in economic life; besides it achieves only illusory results. It is thus that progressive taxation, extolled by so many unbalanced individuals and some wrong-headed economists, only leads to deceptions, to fraud, or to the emigration of capital....."

Prof. Leroy-Beaulieu thus defined the ideal of social justice:—

"The rôle of the State consists only in removing obstacles, administrative or legislative in character, which stand in the way of reducing the inequality of wealth. The aim of the State is not to realise the greatest happiness of the greatest number, as is imagined, on the one side, by certain utilitarians like Bentham, and, on the other, by socialists. A great philosopher, endowed with an astonishing power of analysis, Herbert Spencer has admirably refuted this doctrine, which is as false as it is alluring. Justice is the sole ideal which the State should pursue, and justice in modern societies consists in removing all artificial causes which favour particular individuals at the cost of others, which prevent all activities from developing freely, in so far as they do not encroach upon the freedom of other activities. Strict justice and nothing more, such is the social ideal, and justice is to be understood in the sense that individuals make their own destinies, that the State owes them only negative assistance—that which consists in not obstructing them in their efforts, in their initiative, and in not permitting others to obstruct them (*La stricte justice, et rien de plus, voilà l'idéal social, et la justice doit s'entendre en ce sens que les individus font aux-mêmes leurs destinées, que l'Etat leur doit seulement une aide négative, celle que consiste à ne pas les entraver dans leur efforts, dans leurs initiatives, et à ne pas permettre qu'ils soient entravés par autrui.*)"

⁸ The Case for Family Allowances (a Penguin Special).

clearly yes." But she knows that the 'experiment of a mathematical equality of income'⁹ failed in the Soviet Union.

We may reject equality of income as impracticable, but we must agree that 'vast economic inequalities are senseless.'¹⁰ ✓

There are two main pillars of social justice, according to labour: (1) control of the major economic forces by the community, and (2) economic security for the worker. Social insurance has given the worker some economic security, and he demands more.¹¹

As the power of organised labour grows, the demand of labour for the control and direction of national resources and greater economic security would grow more and more insistent. We view social insurance as a legitimate charge on the State.

⁹ See *Programme for Victory* issued by the Labour Book Service, 1941.

¹⁰ Attention is drawn by Miss Ellen Wilkinson, M.P. to the facts of inequality in Britain in her contribution to *Programme for Victory* (p. 134):

"Taking the 1929 figures, 17½ million out of 20 million incomes in this country were under £250 a year and nearly 12 million were under £125 a year.

One and a half per cent of the population took 23 per cent of the total personal incomes (1929-35).

In 1860 wage-earners took 55 per cent of the national income; in 1935 they took only 40 per cent.

In the year 1924-30 period—six years—6 per cent of the population held 80 per cent of the property in this country and under 2 per cent of the population held 40 per cent."

¹¹ In *Where do We go from Here* (a Penguin Special) Prof. Harold J. Laski pleads for large and revolutionary social reconstruction even when the United Kingdom is fighting for survival. He admits that: "Unemployment insurance has been vastly extended; the wages of agricultural workers have been greatly increased; old-age pensions have been virtually doubled" (p. 96). But that is not enough for creating a new social order. He goes on:

"The truth is that the price of this war is the making of a more equal society; and the road to it lies through the ending of those vested interests which subordinate to profit-making the reconstruction that price entails. I have already spoken of the evidence which points clearly to our entrance upon a revolutionary phase of history. We have to adjust the relations of our society to its claims; all the struggles of the last twenty-five years, with their culmination in the present war, are simply a part of the process of that adjustment."

CHAPTER XXIX

INCOME OF THE STATE

The wants of the modern State, as we have seen, are many. How are these wants to be supplied?

Public expenditures are met from public revenue. Public revenue has been thus classified by Adams :¹

Public Revenue	1. Direct Revenue	(a) Public Domains.
		(b) Public Industries.
		(c) Gratuities or Gifts, or Treasure Trove.
		(d) Confiscations and Indemnities.
	2. Derivative Revenue	(a) Taxes.
		(b) Fees.
		(c) Assessments.
		(d) Fines and Penalties.
	3. Anticipatory Revenue	(a) Sale of Bonds or other forms of commercial credit.
		(b) Treasury Notes.

1. DIRECT REVENUE

By Direct Revenue is meant revenue which accrues to the State in virtue of its sovereign character or corporate personality, or as owner of property, or from government management of productive industry.

Derivative Revenue is what the State takes from the income of others. The income is earned by private bodies or individuals, and a part of it is transferred to the State.

Anticipatory Revenue means income from State short-term (Treasury notes or bills) and long-term loans (bonds). This revenue is anticipatory because loans enable the government to anticipate its income, or to spend it before it has arisen.

¹ *The Science of Finance*, by H. C. Adams, p. 227.

Examples. Direct Revenue; (a) *Public Domains*.—Extraordinary Receipts of the Punjab Government, from the sale of land, are a good illustration of this form of revenue. Unoccupied land belongs to the State. When a canal is constructed, land which was lying barren for want of water acquires a value.

If we view the State as the universal landlord, then the land revenue would be regarded as a form of direct revenue, arising from the State ownership of land. But even otherwise the State owns lands which are cultivated by Crown tenants.

(b) *Public Industries*.—Examples have been given before. In the Punjab, Net Irrigation Receipts bear a double character. They are the profit of the Government from the supply of water—a public undertaking. But the price charged much exceeds the cost of service and the water-rates may not without justification be regarded as a tax (Derivative Revenue).

(c) *Gratuities or Gifts, or Treasure Trove*.—All Treasure Trove belongs to government. Any individual may make gifts to government. These gifts are generally made for a specific purpose (e.g., founding an educational institution or a charity, or, as during a war, for a specific war-purpose).

(d) *Confiscations and Indemnities*.—Under this head we may place 'payments from Indian States' to the Government of India, formerly called 'Tributes,' and Confiscations and Indemnities imposed upon a defeated enemy by the conqueror at the end of a war. India got a share in the 'Reparations' paid by Germany at the end of the Great War.

2. DERIVATIVE REVENUE

(a) *Taxes and (b) fees*.—A tax has to be distinguished from a price on the one hand, and a fee on the other. The payment for a postage stamp, or a post-card, is a price. It is not a tax, because the individual is free to refuse the service provided by the government. A tax (i) is a compulsory payment made under certain conditions, and (ii) it is levied for the general purposes of government.

For example, the income-tax is paid provided income exceeds a certain amount, and it is a compulsory levy. If government left it to the option of income-tax payers to pay the tax, its income from this source would be negligible.

Secondly, a tax is levied for the general purposes of government. Government does not render any specific services to income-tax payers in lieu of the income-tax paid by them.

The principal sources of the income of the Punjab Government are the land revenue and the water-rates. Assuming that they are of the nature of taxes, the agricultural section of the population pays them, but they are not spent exclusively for its benefit.

A fee is a payment for a non-economic service, *e.g.*, the fee demanded for recording a deed or mortgage, or for any legal process. It may seem as if a fee is a *quid pro quo*, or an equivalent for a specific service rendered to a particular individual. But the maintenance of courts of justice is part of the protective functions of government. It is not the object of government to meet the whole cost of dispensing justice from revenue raised from court fees, but rather to discourage people from unnecessary litigation.

A fee is demanded for a passport. The charge is incidental in the administration of foreign affairs, and is not meant to cover the cost of any specific service abroad to the person paying it. It is part of the duties of government to maintain foreign relations.

It is sometimes difficult to distinguish between a price and a tax. A price we have defined as a payment for an economic service which may be refused. One may refuse to buy a railway ticket, and travel by a lorry or set out on foot for his destination. One may decline to make use of the telephone or the telegraph. But is the peasant really free to refuse canal water? The alternative is ruin and death. The sale of water is an economic service, but where the person utilising the service must accept it, and where the charge made for the service is independent of the cost of service, and is determined by the general needs of the government, as is the case in the Punjab, the price is transformed into a tax.

(c) *Assessment*.—This assessment should not be confounded with the assessment of the land revenue. A special assessment, according to Seligman, is a compulsory contribution levied in proportion to special benefits designed to bear the cost of special improvements to property undertaken in the public interest.

As a town grows, new *abadis* (quarters) spring up. Krishan Nagar in Lahore is such a new quarter. Houses were built and people began to live in them long before the Lahore Municipality provided Krishan Nagar with roads or a system of drainage. The construction of metalled roads and drains is necessary in the public interest, but it is of direct benefit to owners of property. The State may, therefore, impose a contribution, in the form of special assessment, on owners of property who have directly benefited from State expenditure.

The building of pacca roads has raised the value of landed property in Krishan Nagar.

(d) *Fines and Penalties*.—Fines and penalties are an incidental source of revenue—they are not imposed for the sake of revenue.

Taxation.—The most important source of public revenue is taxation. Taxes are of two kinds, direct and indirect. A direct tax is one whose impact and incidence are on the same person, that is, which is borne by the person who pays it in the first instance. In the case of an indirect tax, the impact and the incidence are on different persons. Examples will make our meaning clear.

The income-tax is a direct tax. The incidence of the income-tax is on the person from whom it is collected.

A tax on commodities is an indirect tax. The salt tax is collected from wholesale dealers who buy salt from Government, but the incidence is on the consumer.

When a tax is passed on from one person to another, it is said to be shifted. Indirect taxes are meant to be shifted. Heavy duties are imposed on certain imports, e.g., cigars, cigarettes and wines, which restrict their consumption by raising prices.

A good tax system includes both direct and indirect taxes.

Canons of Taxation.—Four main canons or principles of taxation were formulated by Adam Smith, and they are as valid to-day as they were in his time :

1. *Equity*.—"The subjects of every State ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is in proportion to the revenue which they respectively enjoy under the protection of the State."

2. *Certainty*.—"The tax which each individual is bound to pay ought to be certain, and not arbitrary. The time of payment, the manner of payment, the quantity to be paid, ought all to be clear and plain to the contributor, and to every other person."

3. *Convenience*.—"Every tax ought to be levied at the time, or in the manner, in which it is most likely to be convenient for the contributor to pay it."

4. *Economy*.—"Every tax ought to be so contrived as both to take out and keep out of the pockets of the people as little as possible over and above what it brings into the public treasury."

Equity.—The principle of equity leads, not to proportional but progressive taxation.

The rate of a proportional income-tax would be the same for all tax-payers. Suppose the tax is levied at the rate of 10 per cent of income, so that a clerk with an income of Rs. 50 pays Rs. 5, and a Minister with a salary of Rs. 3,000 pays Rs. 300 per month. Each contributes in proportion to his income, but the tax will exact heavier sacrifices from the clerk than from the Minister. The principle of equity requires that those who earn more contribute towards the expenses of the State more than in proportion to their income.

The reader already knows the meaning of progressive taxation, and the assumptions on which it rests.

Every tax in a tax system cannot be made progressive. The principle of progression can be applied only to direct taxes, e.g., the income-tax.

A tax is regressive when the burden of the tax increases as income decreases. No income-tax is regressive, but some taxes on commodities are regressive. The burden of the

salt tax increases as income decreases. The land revenue, according to the Indian Taxation Enquiry Committee of 1924-25, "viewed as a scheme of taxation, is not only not progressive but actually tends in the opposite direction"—or it is regressive, for it imposes heavier sacrifices on the smaller than the larger landowners.

In a *proportional* income-tax the rate of the tax would be the same for all incomes, e.g., 10 per cent. In a *progressive* income-tax, the rate of the tax rises as income increases (from 1·4 per cent on an income of Rs. 2,150 the rate of taxation rises in our 'slab' system to 23·9 per cent on an income of Rs. 80,000). Progression is applied from bottom upwards, *degression* from top downwards. In a *degressive* income-tax a rate is fixed for a given magnitude of income, beyond which there is no increase in the rate of taxation, and the rate of the tax is progressively moderated downwards. Or, as we may say, an income-tax is degressive when there is progression up to a certain limit and simple proportion thereafter.²

In the 'slab' system the rate of the tax will always continue to rise with the income taxed, without ever reaching 100 per cent.

Certainty.—Everyone who pays a direct tax should know what he has to pay, and when, and how. In the case of the income-tax, the rate of the tax, the time of payment, and the manner of payment are all known. If it were not so, the tax-payer would be subject to harassment by officials. "The uncertainty of taxation," wrote Adam Smith, "encourages the insolence and favours the corruption of an order of men who are naturally unpopular, even where they are neither insolent nor corrupt."³

² If degressive taxation is taken to mean that "large incomes are taxed at a higher rate than smaller incomes, but not in a degree which involves as great a proportional sacrifice for the former as for the latter" (Chapman), all progressive taxation becomes degressive in the uppermost grades of income. We prefer the interpretation given by Lotz (*Finanzwissenschaft*, 1917, p. 249), that is, beginning with the highest rate, beyond which there is no percentage rise in the rate of taxation, the rate of the tax progressively falls as income becomes smaller.

³ *Wealth of Nations*, Book V, Chapter II.

The land revenue payer also knows what he has to pay and when, and how.

In regard to an indirect tax, as on matches, salt, or any imported commodity, very few people know the amount contributed by them in a year.

Shall we add 'why' to 'what,' 'when' and 'how'? In an enlightened community most tax-payers understand why they have to pay direct as well as indirect taxes. But there is a 'cynical' view of taxation, which finds expression in the saying, 'Pluck the goose with as little squealing as possible.' The expenses of government have to be met, for which purpose the tax-paying goose has to be plucked. If no questions are asked, so much the better. There is always a reason, good or bad, for enhancing an old and imposing a new tax. But there is no tax which is not likely to burden some section of the community more heavily than others, and no explanation of a tax would completely satisfy those who are made poorer by it.

Convenience.—The burden of a tax is less felt when it is collected at a convenient time. In regard to the income-tax, the inconvenience would be materially increased if salaried persons were required to pay it at the end of the month. The tax is collected when the salary is paid—in fact the salary is paid after the deduction of the tax. This is called the principle of *stoppage at source*.

The land revenue is collected by instalments, which become payable shortly after the gathering of the crops. The number, dates and amounts of the instalments are fixed at the settlement with the approval of the Financial Commissioner and are often identical for all the estates in the *tahsil*. If it is found that the arrangements originally made are unsuitable for any estate or group of estates, they are changed at the request of the District Officer.

Landowners in an estate are both jointly and severally liable for the payment of the whole land revenue assessed upon it. The *lambardar*, or the village headman, collects the revenue from the landowners and pays it into the *tahsil* treasury. Shareholders are not allowed to pay direct.

It seems unfair to make A responsible not only for the payment of his own land revenue but also for that of B, C,

and D. But land in the Punjab is supposed to be owned in common by village communities.

Indirect taxes are convenient to pay. A direct tax of Rs. 5 a year would make most individuals grumble. But a tax of Rs. 10 in the shape of higher prices would be paid without objection—in fact without most people knowing it.

Economy.—The canon of economy has two meanings. First, the cost of collection of a tax should be kept down to a minimum. In the case of the income-tax it is generally less than 3 per cent. It is heavy in the case of the land revenue, but land revenue administration is inseparably connected with general administration.

If income-tax collectors ate up half the tax collected, it would not be worth while levying the tax.

Second, a tax not only transfers a sum of money from the pockets of the people to government treasury, but produces other reactions.

Let us suppose that a tax is imposed on milk sold in towns, which has the effect of doubling the price of milk. The loss to the public will be twofold: (a) expenditure on milk will be increased, and (b) consumption of milk will decrease, and some consumers may have to give up milk altogether. So far as the money receipts are concerned, the government gains what the consumers lose. But there is, in addition, the loss of health and strength. The total loss to consumers in such a case would far exceed the gain to the public treasury.

A tax on washing soap which raised its price would, similarly, inflict injury on the general public far exceeding the gain to the treasury.

The sufferers from a tax are not only those who have to pay more for a commodity or service than before, but also those who are forced to do without the commodity or the service.

A tax on a raw material, e.g., cotton, may bring less into the public treasury than what the consumers ultimately pay. The tax will be first paid by growers, who will recover it from *beoparis* or traders. The *beoparis* will pass it on to ginners, ginners to spinners, spinners to weavers, and finally

the consumer will pay it in the form of a higher price of cloth. But at each stage interest on the amount of the tax will be added to the price of the commodity.

Other canons of taxation.—(i) "*An old tax is a good tax and a new tax is a bad tax.*"—An old tax is a good tax because people become accustomed to paying it; a new tax is generally disliked. There is no good reason for levying the land revenue except that it has been paid by landowners in India since time immemorial. The whole process of assessment is excessively complicated. While the amount of the land revenue that a landowner is required to pay is definite, the proportion of the tax to 'net assets' is uncertain. There is no exemption limit. The tax is regressive in its effects. In recent years, agricultural prices having fallen, many small landowners have paid the land revenue by selling ornaments and running into debt. The introduction of the sliding scale system of assessment shows that the old assumptions on which the land revenue system was based, no longer hold true. Our land taxation needs fundamental overhauling. But so long as the goose allows itself to be plucked, with only occasional squeals, it will continue to be plucked.

(ii) *Productiveness*.—A tax is imposed for its yield, but it is never wise to go too far. Imported articles of luxury, as motor-cars, are generally taxed at the rate of $33\frac{1}{3}$ per cent *ad valorem*. Motor-cars are mostly used by the rich, and it may seem that more might be got out of them by raising the tax to 50, 75 or 100 per cent *ad valorem*. But an import duty begins to yield diminishing returns after it has been raised beyond a certain point. If the duty is so high as to be prohibitive, it will yield nothing.

If taxes on income and inheritance are so high as to discourage saving, the wealth-producing capacity of a community will be injured.

The level of a tax should be so chosen that its productivity is high, taking both immediate and ultimate effects into consideration.

(iii) *Variety*.—In the past the main burden of taxation in India rested almost wholly on land—land under the Moghul Kings was the chief source of income. But new sources of

income have arisen. A modern system of taxation includes a great many taxes, designed to reach all sections of the public.

(iv) *Elasticity*.—A tax system should be elastic, so that public revenues automatically expand with the growth of wealth and income. All taxes in a tax system are never elastic. For example, the land revenue, even in temporarily settled areas, can be enhanced only when there is a fresh settlement at the end of a long term of years (once in 40 years in the Punjab; 20 or 25 years in some other provinces). The income-tax and customs duties are highly elastic sources of revenue.

The main provincial sources of income possess little power of expansion.

3. THE SINGLE TAX OF THE PHYSIOCRATS, OR THE *IMPÔT* UNIQUE

The Physiocrats believed that land alone was productive due to the generosity of nature. The land yielded a 'net product' (*produit net*), while manufacture only reproduced the value of the raw materials used and the commodities consumed by the labourer while engaged in production. Thus agriculture alone yielded a surplus; industry was sterile. It followed that the taxation of industry was wrong in principle.

The Physiocrats took a wrong view of productive labour. Manufacturing industries create value precisely in the same sense as agriculture, and value which is three or four times greater than what agriculture creates.

Voltaire called the *impôt unique* the *impôt inique* (iniquitous tax), and Voltaire was right.

4. THE MODERN SINGLE TAX

A single-tax system (what a German writer calls *Steuermonismus*, *Steuer*, a tax; *Monismus*, monism) was advocated by several writers in the latter half of the 19th century, though for reasons different from those which actuated the Physiocrats. The single tax may be a tax on

the rent of land, or a tax on unearned increment, or an income-tax.

The rent of land is a surplus above cost of production. Not very long ago the State in India claimed as its share about two-thirds of the net income from the land; the State's share has now been reduced to about 25 per cent in the Punjab (as was recommended by the Indian Taxation Inquiry Committee of 1924-25). It may be doubted whether all other taxes would become unnecessary even if the State appropriated the whole of the true economic rent of land. The injustice of leaving other sources of income untouched is apparent. A tax on the rent of land as the single tax is associated with the name of Henry George.

Unearned increment means increase in the value of land which is due to the general growth of society. Many parts of Lahore outside the walled city area, where the value of land is now several thousand rupees per *kanal*, were uninhabited 50 years ago, and land there could be then had for a song. The increase in the value of such land is the source of many large fortunes. Since this increase in income is unearned, it is peculiarly suitable for taxation. While the taxation of unearned increment was zealously advocated by American and English writers it found its greatest application in Germany. By 1910 a tax on increment in land values (*Westzuwachssteuer*) was being levied in no less than 652 municipal areas in Germany.

Two chief difficulties are encountered in the taxation of unearned increment. First, it is not easy to discover the exact amount of the unearned increment.¹

¹ The greatest rise in the value of land has occurred in towns. But in towns we have to deal mostly with land that has been built upon. The tax relates to increment in the value of land alone, for a tax on houses or buildings would be a tax on capital. It is difficult to determine the exact amount of increase in the value of land, apart from the house or building standing on it. The property owner would endeavour to have the value of the house or building at the present time over-assessed, and at the time of the purchase, under-assessed, so as to show a lower increment in the net value of land.

The Punjab Resources and Retrenchment Committee (1939) discussed this tax. Their report says:—

"It is obvious that estimates of even the existing value of an old

Second, if the State taxes unearned increment, it should pay compensation for unearned decrement, or decrease in the value of property for which the owner is not responsible. Sometimes, while the value of property in one part of a town is rising, in another part it is falling.

A tax on unearned increment is to be distinguished from a betterment tax, which is very commonly levied. The cost

house are not easy to make. It would be much more difficult then to find out what the value of a house, apart from the land, was, three, four or five years ago, because records are not likely to exist, and exact descriptions such as may be involved in material and specifications, etc., may not be available. In this view the opinion is largely held that one should not consider past transactions at all. But, even in order to apply the principle of taxation to future increments in the value of land where land is built upon, it would be necessary to estimate the value of all houses as they exist at present. This, as the Indian Taxation Enquiry Committee pointed out, would require the services of an army of expert valuers. It were such difficulties that led to the breakdown in England of the attempt to tax future increments in 1910.

On the whole, we consider that the tax would not be productive unless it is made retrospective, but then it would be extremely difficult to work, and it would anyhow be costly to administer. We realise that altogether there are numerous and important difficulties in the successful working of such a tax, and that its actual profitable scope is extremely limited. We do not, therefore, make a definite recommendation for its imposition."

The Committee arrived at the following main conclusions regarding the form, scope and rate of the tax, should it be imposed :

(i) The tax should be charged on the basis of the sale value, and not of any assessed value, of land, i.e., the unearned increment must be definitely ascertained as the difference between the value of a sale and a previous purchase.

(ii) The retrospective scope of the tax should not be more than 5 years.

(iii) The increment in the value of land to be made subject to tax should be the rise in value which has occurred since the last sale (within 5 years).

(iv) A rise of 10 per cent per year would not be liable to any tax....

(v) The minimum unit of increment liable to tax, irrespective of the period that may have elapsed since the purchase of land, should in no event be less than 25 per cent. A rise in value up to 25 per cent will not be taxable, if it should occur in two years or in one year or any smaller period.

(vi) The tax should be charged at the rate of one per cent of the total increment.

of a town development scheme may be recovered wholly or in part by the levy of a special contribution on the owners of property who will benefit by the scheme.⁵ A betterment tax has the same meaning as a special 'assessment' mentioned above.

German Social Democrats between 1875 and 1891 advocated the use of the progressive income-tax as the single-tax. They were opposed to all "indirect taxes, levies and other politico-economic measures which sacrifice the interests of the majority at the altar of a privileged minority."⁶ In some of their programmes the income-tax was to be combined with a tax on inheritance and other property taxes.

A moderate tax on income may suffice if State expenditure could be greatly reduced. If, as Bastable argues, England had never engaged in the Revolutionary and Napoleonic Wars (we may add the Great War and the

⁵ A 'betterment levy,' or a 'special assessment' is commonly imposed in many American cities and it was introduced in Bombay in 1915 and in Madras in 1920 under the Town Planning Acts.

The Punjab Resources and Retrenchment Committee considered the desirability of such betterment taxation in connection with land newly brought under irrigation, or guaranteed a supply of water for the first time. When the value of such land increases, the increment may be taxed in the form of lump sum, or a levy may be imposed as some percentage of the land revenue, or some proportion of the increased increment in the value of land payable by instalments. Mr. J.D.H. Bedford, Chief Engineer, Irrigation (since retired), favoured the levy of a lump sum tax on the increase in the value of the land resulting from fresh introduction of irrigation. His specific proposal was of the nature of a 'capital levy':—

'Government should take over a portion of the land held by each individual, more particularly when the area of individual holdings is above a certain agreed unit, say 40 acres. Government should take over 25 per cent: such areas should gradually be sold, the original owners being given the first option to purchase at an agreed price; the agreed price should not be unduly low. The proposal would require elaboration but appears feasible.'

The Resources and Retrenchment Committee objected to a lump sum levy on the ground that it could not be paid out of income. But they agreed with the principle of betterment taxation.

It may be doubted if Mr. Bedford's proposal would make a very strong appeal to large holders!

⁶ *Finanzwissenschaft*, by Dr. W. Lotz (Tuebingen, 1917), p. 255.

present war) and it was possible to curtail other expenditure so that not more than £25,000,000 was to be provided by taxation, "an income-tax of 8d. in the £ (including as it should the smaller incomes now exempt) would be the most direct mode of procuring that sum."⁷ But burdened as the United Kingdom is with a staggering load of National Debt, and with a colossal social expenditure, the income-tax, as the sole means of meeting State expenditure, would have to be levied at an oppressively high rate. The standard rate of the British Income-tax for 1939-40 was no less than seven shillings in the £, and the death duties ranged from 11 per cent on estates of the value of £25,000-30,000 to 60 per cent on estates of the value of £2,000,000. And there were also other taxes.

Lotz advances three main arguments against the single-tax:

(1) No single-tax is free from objection, and the higher the rate of the tax the greater its are defects. Many small taxes, none of which is unexceptionable, taken together, would be a lesser evil than an extremely high single-tax.

(2) When State expenditure is high, the taxation of persons with small incomes cannot be avoided. This is best effected through taxes on articles commonly consumed by the masses.

(3) It is not merely the Central government but Local governments (e.g., the provinces) which impose taxes. It is desirable that they should tap different sources of income.

He concludes: "It is possible to meet expenditures through a single-tax only in freshly settled colonies, carrying a light burden of interest on public debt and military expenditure, not in the older civilised countries."⁸

In India there is now a clear demarcation between Central and Provincial finance, with the exception that the provinces get a share of the income-tax collected by the Central Government.

⁷ *Public Finance*, by C. F. Bastable, p. 346.

⁸ *Loc. cit.*, pp. 255-57.

5. SOCIALIST FINANCE

A socialist budget would differ in one important particular from a capitalist budget. Where the State owns and operates all industries, profits from industrial undertakings would form part of State revenue, while investment in industries would form part of State expenditure.

The following is a summary statement of the estimated income and expenditure of the Soviet Government for the year 1936⁹:—

Table I

Receipts (excluding proceeds of loans) :—

			Estimates 1936 Roubles (000,000's).
From Socialised Economy	...	...	69,918·8
From the Population	...	...	2,130·1
Other receipts	...	...	1,516·1
Total receipts (excluding proceeds of loans)			73,565·0

Expenditure

On National Economy	...	...	37,583·5
On State Administration	...	...	41,131·5
Total Expenditure			78,715·0
Balance			—5,150·0
Proceeds of loans	..	...	5,150·0
Final Balance			..

Out of the total revenue of 73,565 million roubles, about 70,000 million roubles was the yield of socialised economy. Expenditure exceeded income by a little over 5 billion rubles, and the gap was filled by the proceeds of loans.

Receipts from socialised economy were shown under the following heads :

⁹ See *Public Finance Memoranda* of the League of Nations, 1928—1935, U.S.S.R.

Table II

Receipts from Socialised Economy

	1936 Million Roubles
Turnover tax	... 62,690 0
Tax on non-commercial operations	... 260.4
Agricultural tax on collective farms	... 449.9
Tax on State farms	... 39.2
Income-tax on co-operative organisations	... 49.0
Contribution from social insurance	... 3,150.0
Deductions from profits	... 3,188.3
Other receipts from socialised economy	... 92.0
Total receipts from socialised economy, excluding proceeds of loans	... 69,918.8

'Deductions from profits' represent the State's net income from State-owned and operated industries (heavy industry, light industry, forest and timber industry, State agricultural enterprises, mines, means of communication and transportation, etc.). The income from this source is negligible. The most important head of income in table II is the turnover tax.

'Receipts from the population' in Table I consisted of two items only: tax for housing and cultural work (1,480 million roubles) and agricultural tax on collective farmers and individual peasants (650.1 million roubles).

'Other receipts' in Table I included 3 items: customs duties (820 million roubles), coinage receipts (20 million roubles), and 'other receipts' or, as we may say, 'Miscellaneous' (676.1 million roubles).

Other taxes as a source of State income are of very slight importance as compared with the turnover tax.

The yield of the turnover tax is derived from the following sections of the Socialised Economy:

Table III

<i>Turnover Tax :</i>	Estimates 1935	
	Roubles (000,000's)	Per cent.
Heavy Industry	... 4,695.0	91.4
Light Industry	... 2,495.4	48
Forest Industry	... 182.9	0.4
Food Industry	... 13,518.3	261
Committee of Food Supply	... 24,000.0	463
Other Industries		
Co-operative Organisations	... 1,321.0	2.5
Trade, etc.	... 7,662.4	14.7
Total	... 53,835.0	103.9
Deduction on account of reduction in prices	... 2,000.0	3.9
	51,835.0	100.0

In heavy industry the important sources of yield are petrol, india-rubber, asbestos, machinery; in light industry: textiles, leather, cotton, clothing, silk, matches, perfumery; in the food industry: tobacco, spirits, alcoholic beverages and sugar. The yield of the turnover tax on grain products is shown under the Committee of Food Supply.

In the 1936 estimates the yield of the turnover tax was divided as follows:—

Table IV

Turnover tax	Estimates 1936	
	Roubles (000,000's)	
Grain products	... 21,200	
Alcohol	... 6,000	
Vegetable Oils	... 2,600	
Sugar	... 5,900	
Meat	... 3,025	
Cotton	... 4,200	
Petrol	... 4,670	
Other Products	... 15,035	
Total	62,690	

Perhaps we owe an apology to the reader for overloading this section with statistics, but it was necessary to remove misconceptions about Soviet taxation. No one has contributed more to a misunderstanding of the Soviet tax system than the well-known authors of "Soviet Communism," Sidney and Beatrice Webb.¹⁰

The Webbs would have us believe that indirect taxation does not affect the mass of the people in the Soviet Union. The truth is exactly the opposite. The turnover tax is nothing but indirect taxation, and this indirect taxation includes necessities and other articles which are most largely consumed by the masses. The purchasing power of the rouble, as compared with British or Indian money, is very small; what keeps prices of articles of common use in the Soviet Union high is the turnover tax which is levied in some cases at rates which are almost incredible.

The taxation of food-stuffs alone accounts for about two-thirds of the yield of the turnover tax and for more than half of the entire revenue of the Soviet Union.

Some of the rates of the turnover tax in force in 1937

¹⁰ "We need say little of the system of taxation properly so called. It is, of course, avowedly based, not on principles of "equality of sacrifice" or maximum yield but on those of 'building up the socialist state,' by penalising any remnant of profit-making enterprise (which is regarded as criminal); and as even Jeremy Bentham recommended, by drastically taxing relatively large incomes and inheritances, whilst exempting from any direct imposts the mass of poor folk. The main direct taxes are now few and simple. The principal is a tax on the output or turnover of all industrial enterprises of any magnitude, which are now all state-owned; coupled with a single agricultural tax on all agricultural enterprises according to their size or importance. In both cases the assessment is mitigated in various ways in favour of the collectivised concerns, and of those enterprises which it is part of public policy to encourage, to the detriment of the surviving individual peasant or producer. Along with these main instruments of revenue rank the taxes on incomes and inheritances, which are drastically progressive, so as to operate in a similar direction. The indirect taxation, including excise (mostly on alcoholic drinks and tobacco), customs (very small in yield) and stamps on legal transactions, has been steadily modified in the direction of simplification and (with the great exception of sugar) concentration upon undesirable luxuries and upon expenditure not much incurred by the mass of the people." (*Soviet Communism*, pp. 116-17).

were the following: meat, from 61 to 82 per cent; salt 66 to 83 per cent; bread and flour 70 to 80 per cent; cottons 44 to 65 per cent; leather footwear 17 to 35 per cent. "Throughout 1938," says Florinsky, "the rates of the turnover tax were maintained at the same high level which, of course, was to be expected since the revenue from this source, according to the budget, must be increased by more than seven billion rupees."¹¹

The rates of the turnover tax are computed on the basis of a percentage of the selling price. The tax on sugar in 1936 was 85 per cent, and a kilogram (2·2 lbs.) of sugar sold at a fixed price of 4·20 roubles. 85 per cent of the price, or 3·5 roubles, went to the State as revenue, and the remaining 15 per cent, or 0·63 roubles, was to cover the cost of production and the 'planned profit' of the sugar refinery. The price of sugar would be lower if the turnover tax were not so high.

The yield of the turnover tax represents the following percentages of total budget receipts:

<i>Closed Accounts</i>			<i>Estimates</i>	
	...	%		...
1931	...	52·9	1934	...
1932	...	65·3	1935	...
1933	...	64·8	1936	...
				65·6
				84·6
				85·2

The ideal of the single tax, passionately advocated by the Physiocrats, has been realised by the Soviet Government. But this Single Tax is a tax on the consumption of the mass of the people!

The expenditure of the Soviet Government does not call for detailed notice. Expenditure on National Economy is what the Government sets apart for Industry, Agriculture, Transport and Communications, and the financing of State trade, supply, and agricultural produce collecting organisations. The other heads of expenditure are the same as in capitalist countries, *e.g.*, national defence, social and cultural expenditure (education, public health, physical culture, social insurance and labour protection), general administration, etc.

¹¹ *Toward an Understanding of the U.S.S.R.*, p. 167.

CHAPTER XXX

INCIDENCE OF TAXES

The reader knows the distinction between direct and indirect taxes, and the difference between the impact and the incidence of a tax. In this chapter we shall investigate the final incidence of the more important taxes. This is brought about through a complicated process known as the shifting, rolling or repercussion of taxes.

1. THE CAPITATION TAX

A capitation tax is collected in Lower Burma under Section 34 of the Burma Land and Revenue Act of 1876 from all males between the ages of 18 and 60 years, ordinarily at the rate of Rs. 5 per head from married men and Rs. 2-8 per head from men who have no wives.¹ Certain classes of persons enjoy exemption from the tax, e.g., Government servants, priests, persons without any means of paying the tax, etc.

A capitation or poll-tax cannot be shifted. To escape it one must leave the country.

If a tax were imposed on all adults over 6 feet or under 5 feet in height, they would have to pay the tax, or emigrate.

A tax on unmarried adult males, earning an income sufficient to support a family, would encourage matrimony. The same object is indirectly promoted by allowances in an income-tax for married couples.

2. TAXES ON COMMODITIES

The excise on matches has raised the price of a match box from 1 pice to 2 pice, and of a dozen match boxes

¹ Report of the Indian Taxation Enquiry Committee (1924-25), p. 21.

from $2\frac{1}{2}$ annas to $4\frac{1}{2}$ annas. The tax has been shifted by producers to consumers.

Taxes on commodities are generally passed on to consumers. Why?

We assume that before the imposition of the tax, producers were earning normal profits. The tax reduces the rate of normal profits, and unless a higher price could be charged, capital will tend to leave the industry concerned. If exceptional profits were earned in the industry, the tax will reduce profits and a great part of it may be borne by the producers. If the supply is inelastic, producers will have to bear the tax.

Attention must also be paid to the conditions of production. The incidence of a tax on a monopoly is different from that on an article produced under free competition. When production is subject to constant returns, marginal cost remains the same whether more or less of the commodity is produced, but with contraction of output marginal cost rises under increasing returns and falls under decreasing returns. As the result of taxation, price may rise by an amount equal to the tax, or by an amount less or greater than the tax.

Whether, after the imposition of the tax, the same amount of the commodity or a smaller amount will be produced depends on the elasticity of demand. If demand is wholly inelastic, the whole of the tax will be shifted to the consumer, and the same amount produced as before.

Most often demand will contract as the result of a rise in price. If the industry is strongly subject to increasing returns, price will rise by an amount greater than the tax. If the contraction of output lowers marginal cost (diminishing returns), the rise in price may be less than the tax.

When demand is highly elastic and the supply not very elastic, part of the tax on a commodity may be borne by the producers, or the result is a compromise.

The incidence of a tax on a commodity also depends on the amount of the tax. A moderate tax on petrol will be borne by the consumer. But if the tax doubled the price of petrol, the demand for motor vehicles will contract, and the profits of dealers in such vehicles and of manufacturers

would be affected.

3. DIAGRAMMATIC ILLUSTRATIONS

Let us take the simplest case, of a commodity produced under the law of constant costs or constant returns.

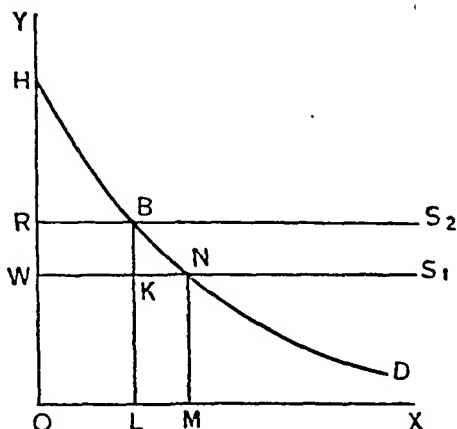


Fig. 62.

In Fig. 62 S_1 is a straight line, or marginal cost of production is the same for all amounts of the commodity. Let us suppose that a tax is imposed equal to BK per unit, on the commodity. The tax will raise the price, as the result of which demand will contract. S_2 shows the new position of the supply curve. The equilibrium price rises from NM to BL . Price has risen by BK , which is equal to the amount of the tax.

When OM quantity was bought at NM price, consumers' surplus was NHW . When OL quantity is bought at BL price, consumers' surplus is BHR . The loss of consumers' surplus is represented by the area $WNBR$. The gain to the public treasury is equal to the tax BK multiplied by the quantity sold, $WK (=OL)$, or the rectangle $WKBR$, which is less than the amount of consumers' surplus lost.

S_1 rises in Fig. 63, showing that the commodity obeys the law of increasing cost or diminishing returns. As before, the tax is equal to BK and S_2 is the new position of

the supply curve. The new equilibrium price is BL, which is higher than the old equilibrium price NM by the amount

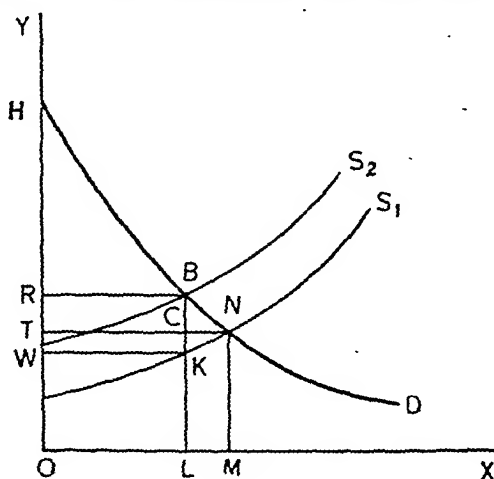


Fig. 63.

BC. In this case the price has risen by an amount less than the tax, which is equal to BK. The reduction of output consequent on the contraction of demand lowers marginal cost.

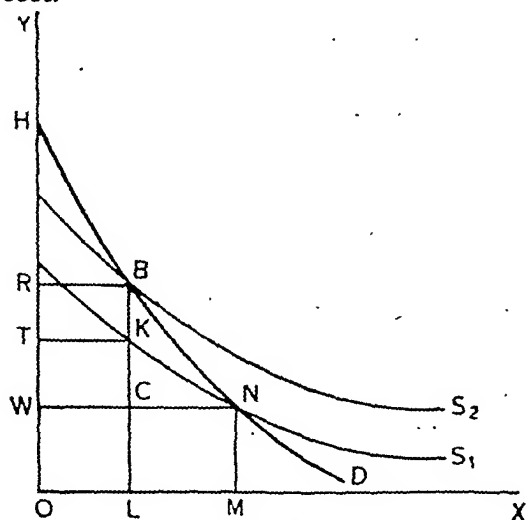


Fig. 64.

The loss of consumers' surplus is represented by the area RTNB (TNH minus RBH), and the gain to the

public treasury by the rectangle WKBR. Given the shapes of the demand and supply curves, the gain to the treasury is probably greater than the loss of consumers' surplus.

Fig. 64 shows production under the law of diminishing costs or increasing returns. As the result of the imposition of the tax, BK, price rises from NM to BL, or by BC, which is greater than BK. The more strongly a commodity is subject to the law of increasing returns, the greater is the rise in its price when less is produced. The loss of consumers' surplus is represented by the area WNBR, and the gain to the public treasury by TKBR. The loss to consumers far exceeds the gain to the treasury.

There is no doubt that the taxation of a commodity strongly subject to increasing returns, which led to a heavy contraction of output, would inflict a considerable loss on consumers. The loss of consumers' surplus is less when the taxed commodity is subject to diminishing returns, but we must not rashly conclude that taxes should be imposed as a rule on such commodities. A tax on wheat would be more oppressive than a tax on scented soap. The State may grant a bounty on the production of scented soap which would lower its price, and thus increase consumers' surplus, but the loss occasioned by a tax on a necessary is of far greater significance than the increase in consumers' surplus from a luxury.

The yield of a tax on a necessary like salt is more certain than that of a tax on an article of comfort or luxury, and this is one of the reasons why salt is taxed. Taking the population of India at 40 crores, and the yield of the Salt Duty at Rs. 8,35 lakhs, the incidence of the Salt Duty is $3\frac{1}{4}$ annas per head of the population, or, say, one pice per head per month.

4. TAXES ON IMPORTS AND EXPORTS

Suppose a tax were imposed on every yard of cloth exported from India. Who will pay the tax, the Indian manufacturer or the foreign consumer?

The foreigner will bear the tax if two conditions are

satisfied: (i) if his demand is wholly inelastic, and (ii) if India is the sole source of supply.

If we had a world monopoly of cloth, and if the foreigner could not do without our cloth, we could raise the price by the full amount of the tax. But if (i) the foreign demand is elastic, and (ii) if we have many rivals, the burden of the export duty would rest wholly on Indian manufacturers.

As a rule export duties are a burden on home producers, for there are few cases of commodities for which foreign demand is inelastic and of which the exporting country has a complete monopoly. Light export duties are levied by the Government of India on tea and jute, of which we have a semi-monopoly. The tea cess is spent for the benefit of the tea industry, and the jute-growing provinces share with the Central Government the yield of the export duty on jute. While India is the largest exporter of tea and jute, it would be inadvisable to make the export duties on these articles heavier. Java and Ceylon tea competes with Indian tea, and the rise in the price of jute would encourage the use of rival fibres as substitutes.

Duties on imports are levied with two objects, (a) revenue and (b) protection of home industries.

Before the Great War the general rate of our customs tariff was 5 per cent *ad valorem*. We had a purely revenue tariff, and the yield of customs in 1913-14 was Rs. 11,34 lakhs. Between 1914 and 1924 the customs tariff was raised several times for fiscal reasons, and we adopted discriminating protection in the year 1924. The receipts from Customs amounted to about 46 crores in 1939-40.

Who pays the import duties? Who bears the cost of protection?

If India were the only market for British cotton goods, and our demand were highly elastic, the duty levied on British cloth would be paid by the British exporter.

If, on the other hand, our demand were inelastic, the same quantity would be imported as before the imposition of the duty, and the whole duty would be borne by the Indian consumer.

The demand for imports is affected by home production.

Suppose imports are a small proportion of the total demand for cotton goods in India, and that the home industry is capable of further expansion. In such a case the foreign manufacturer could not raise his price much.

5. If imports form a considerable proportion of the total quantity of the good consumed, or the home industry is comparatively less developed, the greater part, if not the whole, of the duty would be paid by the home consumer.

Except in very special cases, the main burden of protective duties is borne by the home consumer. This was one of the reasons which led the Indian Fiscal Commission to recommend 'discriminating' protection for India. Import duties raise the cost of imports, and the prices of locally produced substitutes immediately go up. It is by raising prices that protective duties encourage home production. When a protected industry has sufficiently developed, internal competition may bring down the price of the protected article, as in the case of matches, but there is also the danger of price being artificially kept up by combination among producers.

In our country the middle classes are the largest consumers of imported goods and the main cost of protection is paid by them.

5. A TAX ON WAGES

"The theory of the incidence of taxes on services is identical with that of the incidence of taxes on commodities. A commodity is merely a service indirectly rendered" (Chapman). The matter is not so simple, as is implied in the statement quoted. Taxes on commodities are generally passed on to the consumer. But a tax on wages or services may, under certain conditions, only result in lowering the standard of living of the workers concerned. Suppose a tax is imposed on teachers. If we assume that the salaries paid to teachers are the minimum possible and that, as the result of the tax, the supply of teachers will decrease, then the tax will be shifted to the institutions which employ teachers, and finally to the consumers of their services in the shape of higher tuition fees. But if present teachers

cannot easily find alternative occupations, and if, on account of the pressure of the educated unemployed, there is no perceptible reduction in the number of new entrants into this profession, the final incidence of the tax will be on teachers.

Generally speaking, however, it is true that a tax on wages or services will tend to be shifted. Wages are part of cost and the prices of the goods concerned will tend to rise. Here again conditions relating to demand will have to be studied. The net result may be the transference of only a part of the burden to the consumer. A tax on wages may partly reduce profits.

An entertainment tax (e.g., on cinema tickets) is a tax on a service. A moderate tax will be passed on to the consumer. But if the tax is heavy, the demand for the entertainment will decrease, and profits of those who provide the entertainment (e.g., film producers) will suffer.

6. TAXES ON LAND

The economic rent of land, as we have seen, is a surplus above cost of production. A tax on rent cannot be shifted.

Rent accrues to the landowner. Can a landowner pass on part of the tax to his tenants?

✓ The answer is in the negative, if the landlord is already exacting the full economic rent of land.

Rent commonly paid for land also includes some interest on capital. A tax on rent which affects interest, or profits or wages, tends to be shifted.

That, however, does not mean that the landowner will, in all cases, be able to shift it. Let us suppose that the land revenue is a rent (according to Baden-Powell, the land revenue *operates* as a tax on income). It is well known that in recent years peasant-proprietors have paid the land revenue by incurring debt, which means that the land revenue demand has not only absorbed 100 per cent of the surplus above cost but encroached on the profits and wages of the worker. The peasant-proprietor cannot shift the tax to the consumer in the form of higher prices of agricultural products as prices are determined by world forces beyond

his control. And he cannot change his occupation. Whether we regard the land revenue as a tax on the economic rent of land, or as the counter-part of the income-tax, it is not shifted.

A tax imposed on all land per acre will rest on land-owners, but if a tax is imposed on land devoted to a particular use, e.g., sugar cultivation, land would be diverted to other uses, and the tax shifted to consumers of sugar. We assume that the tax reduces the profits of sugar cultivation below the level of general agricultural profits.

Amortisation.—When a land tax of a fixed amount has been levied for a long time, like the land revenue in permanently settled areas, it will be allowed for when the land is sold. Land is wanted for the sake of the income it yields; whatever reduces the income from land, lowers its price. The tax thus falls on the owners of property at the time of the imposition of the tax. Those who acquire land by purchase thus escape the tax, for they would pay less for the land. This process is called 'amortisation.'

Suppose the tax were removed at a later date. The value of land would go up. The increment in the value of land realised would be a pure gift by the State to the seller, for he had already allowed for the tax when buying the land.

A long-continued land tax, when property is changing hands, thus ceases to be a burden on any one. According to Bastable, "where a tax has been recognised as at once special and definitely fixed, it seems to pass out of the ordinary category of taxes and into that of charges, a transformation only possible in the case of durable productive wealth, and most prominent in respect of land."²

7. TAX ON CAPITAL—HOUSE RENTS

The rent paid for a house, as we have seen, consists of two elements, interest on capital and site value. The latter is rent in the proper sense, a surplus above cost.

Let us take two houses, A and B, which provide exactly

² *Public Finance*, p. 442 (3rd ed.)

equal accommodation, and cost precisely the same amount to build. But B is better situated than A. Let us suppose that the annual rent of A is Rs. 400, and that of B Rs. 500. The site value of A is *nil*, so that Rs. 400 is interest on capital, or the cost of production of the house represented as an annual payment. The rent of B consists of two parts, Rs. 400, interest on capital, and Rs. 100, site value.

Let us assume that the demand for houses is inelastic. If a tax equal to 25 per cent of rent were imposed on houses, the rent of A would rise to Rs. 500. Why? The tax has raised the cost of production of the house. If the cost of production were not covered by the rent received, fewer houses would be built, and rents would ultimately rise.

The rent of A would thus rise to Rs. 500, or by the full amount of the tax. Will the rent of B also rise by 25 per cent, or to Rs. 625?

No. Rs. 500 must be paid for B, as for A, on account of interest on capital. But site value has nothing to do with cost, and it remains unchanged as before. The occupier will therefore pay Rs. 600 for house B, including the tax—Rs. 500 as interest, and Rs. 100 for site value. What is the rent of B apart from the tax? Let us call it X. Then :

$$X + \frac{X}{4} = \text{Rs. } 600$$

$$4X + X = \text{Rs. } 2,400$$

$$5X = \text{Rs. } 2,400$$

$$X = \text{Rs. } 480$$

The rent of B falls from Rs. 500 to Rs. 480, or there is a fall in site value from Rs. 100 to Rs. 80.

The tax paid is Rs. 120 (one-fourth of Rs. 480), and the total rent paid, including the tax, is Rs. 600. Of this amount Rs. 100 is on account of the site and Rs. 500 on account of the house. The tax on site value is Rs. 20 (1/5th of Rs. 100), and on the house Rs. 100 (1/5th of Rs. 500), or the tax falls on the house and the site in proportion to the amount of each in the total rent ultimately paid.

If the rent of A were Rs. 400, as originally, and that of B Rs. 600 (with Rs. 200 as site value), the rent of B, including a tax of 25 per cent, would be Rs. 700 (Rs. 500 for the house and Rs. 200 for the site). Apart from the tax the rent of

B would be :

$$X + \frac{X}{4} = \text{Rs. } 700$$

$$4X + X = \text{Rs. } 2,800$$

$$5X = \text{Rs. } 2,800$$

$$X = \text{Rs. } 560$$

The tax paid would be Rs. 140. The site value would fall from Rs. 200 to Rs. 160. As before, the tax would fall on the house and the site in proportion to the amount of each in the total rent ultimately paid, which is Rs. 700 (Rs. 100 out of Rs. 500 for the house, and Rs. 40 out of Rs. 200 for the site).

If house rents are in excess of interest on capital, or if capitalists prefer this mode of investment, or if a rise in rents would cause the demand for house accommodation to shrink (two families sharing a house which was formerly occupied by one) a tax on house rents would be borne by landlords, or the result may be a compromise, rents rising by an amount less than the tax. In such cases site value would fall much more heavily than in the cases considered above.

8. TAX ON PROFITS

A tax on all profits must be paid by those who earn them, assuming that capital cannot leave the country. To escape taxation Indian capitalists would have not only to leave the country but become naturalised subjects of another country; if Indian capital is invested abroad, profits on this capital may be still taxed whether they are brought to India or not.

While a general tax on profits cannot be shifted, a tax on the profits of a particular industry will tend to be shifted. If the industry employs much fixed capital, it is only very gradually that the industry will shrink, causing the price of its products to rise. Ultimately the burden will fall on the consumer.

9. TAXES ON INCOME AND INHERITANCE

A tax on income cannot be shifted. Similarly a tax on inheritance is paid by the person inheriting the property.

But if taxes on income and inheritance are so heavy as to reduce saving, their incidence will be diffused throughout the population. If savings are reduced, less capital will be available for investment in trade and industry, causing production to decline and general prices to rise.

When a tax is passed on from the seller to the buyer, it is sometimes said to be shifted forward, and when the buyer, owing to elastic conditions of demand, is able to transfer the burden of a tax to the seller, the tax is said to be shifted backward.

10. DIFFUSION OF TAXES

The incidence of a tax is said to be diffused when the process of shifting affects more than two parties.

A general sales tax, such as that originally proposed by the Punjab Government, would have a diffused incidence. The tax was to be levied at the rate of 2 annas per 100 rupees on a turnover of Rs. 5,000-10,000, 3 annas per Rs. 100 on a turnover of 10,000-20,000, and 4 as. per Rs. 100 on a turnover exceeding Rs. 20,000. Turnover was defined in the Bill as 'the aggregate amount for which goods or any specified class of goods are sold by a dealer, whether for cash or for deferred payment or other valuable consideration.' No tax was to be levied on a turnover of less than Rs. 5,000. A dealer with an annual turnover of Rs. 7,000 would have to pay Rs. 8-12-0 a year, and a dealer with a turnover of Rs. 21,000, Rs. 52-8-0 annually. There were certain exemptions.

A general sales tax is not a tax on profits. A business might be running at a loss, but it would be still required to pay the tax, provided it had a turnover of over Rs. 5,000 annually.

When the same commodity is sold over and over again, it would be taxed several times. Hides and skins, for example, will figure in transactions between dealers, in the sales of tanned leather, and finally in the sales of leather articles.

A general sales tax will affect wages, profits, rents and prices. No class of the community could escape being hit, but the exact amount of incidence on any particular class

could not be determined. Some dealers may be able to raise prices, and thus shift the tax forward. In other cases, demand for a commodity may decrease and price fall, so that the tax is shifted backward. Profits of some dealers will be lowered; wages or earnings of management of others will be reduced. Part of the burden may be transferred to landlords in the shape of lower rents.

The *Alcavala*, levied in Spain in the 18th century, was a general sales tax. Adam Smith attributes the decline of Spanish manufactures and agriculture to the tax. The rate of the tax, when Adam Smith was writing, was six per cent, but it had been as high as 14 per cent.³ The tax was levied on all sales, whether of movable or immovable goods, and it was repeated every time the same commodity was sold.

Lotz agrees that the *Alcavala* might well have produced a ruinous effect if it was levied in the form described by Adam Smith, but he points out that certain parts of the country enjoyed exemption from the tax.⁴

Adam Smith also mentions a similar tax of 3 per cent upon the value of all contracts, and consequently upon that of all contracts of sale, in the kingdom of Naples. The tax was so levied as not to interrupt the interior commerce of the country, and the majority of towns and traders were allowed to pay a composition in lieu of it. "The Neapolitan tax, therefore," says Adam Smith, "is not near so ruinous as the Spanish one."

The highest rate of the sales tax proposed by the Punjab Government is $\frac{1}{4}$ per cent. The rate is light, and will not ruin our agriculture and industries. But it will tend to lower profits and wages, subject business men to harassment, and give rise to new forms of corruption.

11. CONCLUDING REMARKS ON TAXATION

The advent of Provincial Autonomy has led to a feverish search for new sources of revenue in every province, and taxes are multiplying. The following new sources of revenue

³ *Wealth of Nations*, Book V., Chapter II.

⁴ *Finanzwissenschaft*, p. 720.

were considered by the Resources and Retrenchment Committee appointed by the Punjab Government. Motor vehicles taxation; road monopolies; entertainment tax; tobacco taxation; petrol taxation; profession tax; electricity duty; sales taxation; tax on bicycles; registration of marriages; taxation of unearned increment in land values; betterment tax on newly irrigated agricultural land; terminal tax on goods or passengers carried by railway, or tax on railway fares and freights; and succession duty.⁵ Some of these taxes have been already imposed.

⁵ *Road Monopolies.*—The idea is that every road in the Punjab should have a controlled and revenue producing service of public transport. Under this system licences to ply for hire would be auctioned annually, and competition between lorry-wallas would be put an end to. The licensees would be required to observe a fixed and published time-table and fare-table for each road. The Punjab Resources and Retrenchment Committee did not support the principle of giving monopolies to motor vehicles on public roads. Lorry transport, at present, 'has a special appeal to the poverty-ridden country-side', on account of its cheapness. Moreover, any method that enables Government to raise additional money by increasing the price of transport to the public must involve some restriction of the existing agencies of transport. It will seriously affect the lorry trade, and particularly the small lorrywalla, leaving the field to the big financiers and capitalists. The proposal is also liable to be attacked on the ground that it is designed to help the railways at the expense of the poor lorrywalla.

Profession Tax.—The yield of the *haisiyat* or profession tax levied by 9 municipalities in the Punjab is very small (Rs. 7,000) but the same tax is levied by all District Boards excepting Simla and Rawalpindi, and its yield is about 6 lakhs.

The Punjab Resources and Retrenchment Committee recommended the levy "on every person who follows whether by himself or through an agent or representative, a profession, trade or calling, or is in employment in the province, and who was assessed to income-tax in the preceding financial year, a tax at the rate of five rupees per quarter or part of a quarter exceeding forty-five days, of each financial year." No deduction from the amount of this tax would be allowed on account of any tax of a similar nature paid to any local body in the province.

Provincial Governments are empowered to impose taxes on 'professions, trades, callings and employments.' A tax, such as that proposed for the Punjab, is already levied in the Central Provinces at the rate of Rs. 7 per quarter, and in Bengal at the rate of Rs. 30 for each financial year. The United Provinces Employment Tax Act, 1939, imposes a tax on employments on a graduated scale on the basis of the amount of salary received by any employee. Exemption is granted to those whose salaries do not

We have in addition, taxes levied by the Central Government, e.g., taxes on imports, the excise on matches, and the Salt Duty.

exceed Rs. 2,500 per annum. Other employees have been divided into 27 grades according to the amount of salary earned in the United Provinces. The amount of the tax per year rises from Rs. 90 on salaries between Rs. 2,500—3,500 to Rs. 5,100 on salaries between Rs. 45,000—50,000 and to Rs. 32,000 on salary exceeding Rs. 3 lakhs.

This employment tax is distinct from the income-tax. It is a tax on employees; the income-tax is a tax on all persons, and includes both employees and independent persons, e.g., advocates, business men etc. The employment tax is a tax on a salary; the income-tax is concerned with the total income of a person, from salary, in the case of a salaried person, as well as income from other sources. The employment tax is levied at fixed consolidated rates on salaries falling between certain limits; the income-tax is levied at so many pies per rupee. Finally the employment tax gives no exemption from contribution to provident funds and insurance premia; the income-tax does.

Terminal Taxes on passengers and goods.—A terminal tax on passengers may be collected in Lahore in the shape of a surcharge, say of $\frac{1}{2}$ anna from all passengers arriving in or departing from the city by railway. The same principle may be applied to goods brought into or taken out of the city by railway (the octroi is collected by the Lahore Municipality). The Punjab Resources and Retrenchment Committee regarded it as certain that a terminal tax on goods or passengers carried by railway or a tax on railway fares and freights, would bring down railway revenues (excluding tax receipts) as the demand for railway travel is not absolutely inelastic. "To reduce this loss to a minimum it would be necessary to make traffic by other means of transport (mainly road and rivers) subject to similar taxation" (p. 241).

Terminal taxes such as we are discussing, are to be levied and collected by the Federation, but their proceeds are to be assigned to the Units. "This province—and for that matter any other province—need have no objection to the levy of the taxes referred to here from its own point of view." (*Report of the Punjab Resources and Retrenchment Committee*, p. 242).

Succession Duty.—Duties in respect of succession to agricultural land fall under the Provincial Legislative list, and those on non-agricultural land under the Federal Legislative list. It would be unfair to tax succession to agricultural land without the taxation of succession to non-agricultural land, but there are two main objections to the latter: (a) "The yield would not be commensurable with the serious difficulties in the way of introducing such a measure and the great unpopularity attaching to such a form of taxation," and (b), "Such a tax would entrench upon potential taxable capacity which would otherwise be available for provincial taxation" (*Report*, p. 243).

Succession duties are common in European countries. Such duties

So far as the peasant is concerned, any material relief in the shape of reduction of the water-rates or the land revenue is out of the question.

When the level of public expenditures is high, many sources of income have necessarily to be topped. But the attempt to tax every conceivable source of income is vexatious. Unconsciously provincial governments seem to be treading the path recommended by Arthur Young:—

"The mere circumstance of taxes being very numerous, in order to raise a given sum, is a considerable step towards equality in the burden falling on the people; if I were to define a good system of taxation, it should be that of bearing lightly on an infinite number of points, heavily on none."⁶

Arthur Young condemned simplicity in taxation. Now we know that in a modern civilised community the tax system cannot be simple, but one may go too far in making the tax system complex. Taxes bearing on "an infinite number of points" will adversely affect trade and industry, harass the tax-payers, and be costly in collection.

Arthur Young's advice reminds one of a story related in S'adi's *Gulistan*. A prince had inherited a large treasure; which he proceeded to distribute among his troops and poor people. This did not please his companions, one of whom said:

اگر گنجے بکئی بر عامیای بخشى رسد مر هر گدائے را برنجے
چراستانى از هریک جوے سیم که گرد آمد ترا بر روز گنجے

"If a hoard were distributed among the people, the share of every beggar will be but a grain of rice. Why not take a grain of silver from every one, which will lead to the accumulation of a treasure daily?"

The object of collecting a grain of silver from every one in a modern State is not the personal enrichment of the ruler. But before imposing taxes on all commodities, on all

really do not impose a burden on any one. Unless the person bequeathing agricultural or non-agricultural property made special provision during his life-time for the payment of the duty, he is not affected by the duty (being dead). The heir or heirs part with a portion of the inherited wealth which was not created by their efforts—the duty imposes no sacrifice upon them. Inheritance taxes fall, as it were, between two stools.

⁶ Quoted by Bastable, *loc. cit.*, p. 344.

transfers of goods, and on all forms of productive activity, it would be desirable to consider (a) whether such taxation is really necessary, and (b) whether it is not likely to defeat its own object by prejudicially affecting trade and industry. If a choice lay between a few highly productive taxes, which did not bear too heavily on any particular section of the community, and a multiplicity of taxes, most of them with a small yield, the former should be preferred.

There are two views of taxation. A tax system may be regarded purely from the financial point of view, or as a means of enabling the State to meet public expenditures. But a tax system may have also a socio-political object—that of regulating the distribution of wealth in a regime of free competition. The German economist Wagner assigned a double function to taxation. Taxes are compulsory contributions levied “partly to cover general State expenditure and partly to bring about a change in the distribution of national income.” Wagner first expressed this view in 1883 in the first volume of *The Science of Finance* (*Finanzwissenschaft*).⁷ He was violently criticised, but stuck to his guns, for in the second volume of the same work, published later, he said:

“Along with the ‘purely financial’ object of taxes, a second, a socio-political object, can be distinguished and propounded, namely, interference in the distribution of national income and national wealth with the object of regulating it in such a manner that distribution, taking place under free competition, is altered. In spite of all polemics, I hold fast to this view, and indeed I would broaden the second object to the extent that the expenditure of individual incomes and wealth may also be regulated.”⁸ This view of taxation justifies not merely progressive taxation of income, but also direct taxation of expenditure as such. Very little has been done in India in this direction. The burden of taxation in India rests more heavily on the poorer than upon the richer sections of the population, even when the larger incomes, as in the case of agricultural landlords,

⁷ Third ed., p. 500.

⁸ Vol II., p: 207 (2nd ed.)

are wholly unearned.

12. FREE TRADE *versus* PROTECTION

Having considered the incidence of import duties, we may here discuss the general question of free trade *versus* protection, and other related questions.

'Pure' economists do not conceal their distrust of protection. In their view, as we have seen, free trade is best on the whole, and the clamour for protection is to be ascribed to want of education in economics!

The Case for Free trade.—Free trade is a deduction from the theory of foreign trade. Restraints on trade reduce the advantages of foreign trade, which may be briefly summarised as follows: (1) A country is able to procure commodities which it is absolutely unable to produce itself, or can produce only at much greater cost. Tropical spices cannot be grown in very cold countries. "By means of glasses, hot-beds and hot walls," wrote Adam Smith long ago, "very good grapes can be raised in Scotland, and very good wine, too, can be made of them, at about thirty times the expense for which at least equally good can be brought from foreign countries." It would not be advantageous for Scotland to grow grapes under such conditions. Its labour and capital would be more advantageously employed in other industries. (2) We have seen that even when a country enjoys an absolute advantage over another country in the production of two commodities, it would gain by producing that commodity alone in the production of which it enjoys a greater comparative advantage. (3) Under free trade capital and labour flow into branches of production in which their productivity is the highest. (4) Free trade leads to the territorial division of labour, each country specialising in industries for which it possess the greatest natural or other facilities.

These arguments are intrinsically sound, and if the movement of capital and labour were internationally free, as it is within a country, the gain of the whole world and every country of the world from the free exchange of commodities and territorial division of labour would be enormous.

No trade barriers are erected between different parts of the same country. Why should trade barriers divide one country from another?

The Case for Protection.—Throw all countries open to immigration, and the case for universal free trade would become stronger. As it is, each country is dependent on its own resources for raising the standard of living of its people. Free trade and immigration laws do not go together.

India has a bitter experience of free trade. Protection has come to stay. The case for Indian protection may be thus stated:—

(1) As a source of income industry is superior to agriculture. The territorial division of labour has meant the progressive ruralisation of the country.

(2) The economics of a country depending almost exclusively on agriculture is unstable.

(3) The Famine Commission of 1880 noted that 'the numbers who have no other employment than agriculture are greatly in excess of what is really required for the thorough cultivation of the land.' There is thus a waste of man-power. The development of industries would absorb at least a part of the surplus agricultural population.

(4) The neglect of manufacturing industries leads to a waste of capital resources in an agricultural country. The savings of the people lie scattered in the form of ornaments, or in hoards. The joint-stock form of organisation, which prevails in industry, attracts capital in small sums from a great many small investors.

(5) The development of industries facilitates the accumulation of capital. Industries yield dividends, which may be reinvested, and joint-stock companies keep reserve funds, which create new capital automatically.

(6) The factory worker earns higher real wages than the rural worker. The development of industries may be expected to react on village conditions, leading to a rise in agricultural wages.

(7) Industries create new wealth, the taxation of which augments public revenues. It is well-known that the income-tax possesses considerable elasticity, while the yield

of the land revenue is more or less fixed.

These arguments are economic. There are two powerful non-economic arguments for protection :

(1) The intellectual level of a country mainly dependent on agriculture is not high. This is on account of the nature of agricultural work and the conditions of life that go with it.

(2) A country which is industrially weak is also weak in a military sense. Considerations of national defence require a well-balanced development of both agriculture and manufacturing industries.

Autarkie, or economic self-sufficiency, would be meaningless in a world society governed by a single world State. But the world is divided into independent States with conflicting interests. Only utopians dream of ending war for ever.

Referring to the danger of stoppage of essential supplies in a time of war, Bastable says :

" But as the need for isolation becomes less, and as the industrial activities grow, the wisdom of restriction is less obvious. Even in the seventeenth and eighteenth centuries the advantage of free commerce probably outweighed any loss that a sudden stoppage would cause. For the last hundred years the case for free trade has been steadily gaining ground for, though the technique of war has improved greatly during this period, so has the power of resistance of modern nations."

In the war between the Southern and Northern States in the United States on the question of slavery, the former, in spite of the blockade, continued to resist for four years.

" A nation with a more developed social life," Bastable continues, " would have still greater power of resistance, as the case of Germany abundantly proves."

The experience of Germany during the Great War abundantly proves just the contrary—the unwisdom of dependence on foreign countries for essential supplies.

The rest of Bastable's argument will undoubtedly be read with interest, but probably not with appreciation, by 'pure' economists in the United Kingdom at the present time.⁹

⁹ " Moreover, the creation of a large commercial intercourse tends to

Considerable weight was attached by the Indian Industrial Commission (1916-18) to the development of industries on the ground of national security.¹⁰ But suppose we ignore this aspect of the question, and believing in the economic advantages of freedom of trade, abolish all duties which directly or indirectly protect Indian industries, and return to the five per cent *ad valorem* tariff of 1913-14. What will happen? The new industries which owe their existence to protection (e.g., matches, sugar and iron and steel)

reduce the chances of war in the future. In any country that exports to another, the exporting merchants and the producers from whom they obtain goods have a strong material interest in the preservation of peace. The countries that supply the United Kingdom with food would suffer by any check to that trade, and those connected with the trade may be counted on as friends to a peaceful settlement of disputes. The extension of international trade thus gives solid guarantees for the maintenance of peace, and is, so far, a valuable investment quite apart from its direct benefits. A still more important influence is that of neutral countries; to them war means vexatious restraints on their normal trade, but it also, where the previous lines of commerce are closed, affords new opportunities for profit; and, therefore, while the commercial interests of all countries favour peace, they are, after the outbreak of war, prepared to supply the belligerent whose own trade is most impeded. These are powerful forces, all tending to prevent the exclusion of foreign supplies. Food, as the last war showed, will even in the crisis of war come to England in considerable quantities. We may therefore conclude that a general policy of restriction as a preparation for the privations of war is entirely out of date, while at the same time we recognise the element of truth contained in the protectionist view. It may be said that the course of events has decided the question. A policy of economic isolation is not practicable, while anything short of it would be ineffective. To stop the English trade in corn and cotton would be too evident a piece of folly for any government to attempt it; the best hope lies rather in its increase and in the widening of the area of supply, by which the danger of interruption will be reduced to a minimum."

(*Commerce of Nations*, by C. F. Bastable, revised by T. E. Gregory, 1923. Pp. 161-65.)

¹⁰ "The list of industries which, though their products are essential alike in peace and war, are lacking in this country is lengthy and almost ominous. Until they are brought into existence on an adequate scale, Indian capitalists will, in times of peace, be deprived of a number of profitable enterprises, whilst in the event of a war which renders sea transport impossible, India's all important existing industries will be exposed to the risk of stoppage, her consumers to great hardship, and her armed forces to the gravest possible danger." (*Report*, pp. 55-56.)

will disappear and other industries (e.g., cement, paper and cotton cloth) will severely contract. Much capital and labour, now employed in manufacturing industries, will be set free for other employments. But which other employments? Shall we produce more wheat? Or cotton? Or jute? Or oil-seeds? Or tea? Does the world want more of these products from India? We have been compelled to develop non-agricultural sources of income precisely because the world demand for our raw materials and food-stuffs is declining. International specialisation would be advantageous if a world authority existed to control and direct such specialisation. International specialisation, under free competition, for an agricultural country may mean an increasing dependence on agriculture, a constantly growing pressure of population on the land, declining *per capita* income, and continuous outflow of gold until nothing was left in the country. And on account of immigration laws pressure of population on the land could not be relieved by emigration.

Imperial Preference.—The principle of protection may be applied to a group of countries. Within the territories of a Customs Union (*Zollverein*), trade is usually free, while imports from foreign countries are taxed by all members of the Union at a uniform rate. Such was the famous *Zollverein* which Prussia took a leading share in founding in 1834 and which lasted till 1867. Another example is the Customs Union between Belgium and Luxemburg concluded in July 1921. The two States adopted a uniform tariff policy in regard to foreign countries, and trade between the two countries was freed from all duties.

The British Empire forms a kind of Customs Union, but no uniform tariff is levied on foreign imports by the countries of the Empire, and trade between the Empire countries is not free. The chief feature of Imperial Preference¹¹ is the taxation of goods of Empire origin at lower

¹¹ Imperial Preference first meant free trade within the British Empire and protection against foreign countries. This idea was definitely rejected by the self-governing Colonies.

Imperial Preference was advocated by Mr. Joseph Chamberlain, father of Mr. Neville Chamberlain.

rates than foreign imports. Indian policy is governed by three principles, laid down by the Indian Fiscal Commission : (1) no preference should be granted on any article without the approval of the Indian Legislature ; (2) no preference given should in any way diminish the protection required by Indian industries, and (3) the preference should not involve any appreciable net economic loss to India.

Mr. Joseph Chamberlain was a champion of free trade in 1883. In 1903 he became a tariff reformer. The prosperity of foreign nations under protection and the decline of British industries under free trade "had an effect upon him," and "changed his opinion as to what is the right course to take." In the course of a speech on "Retaliation," delivered at Greenock in October 1903, Mr. Joseph Chamberlain, said :—

"Let no man say because to-day you and I are in favour of retaliation, or what our opponents call 'protection,' that that is at all inconsistent with our having been free traders under totally different conditions. (Cheers). When the temperature goes up to 100 degrees I put on my thinnest clothes ; when it goes down below zero, there is nothing too warm for me to wear. (Laughter).

Mr. Joseph Chamberlain failed to convert his countrymen to the policy of protection. In the *Riddle of the Tariff*, published in 1903, Prof. A. C. Pigou (then lecturer, University College, London), said :—

"When we come, therefore, to strike the balance between the debit and the credit side of the preferential account, we find that, whereas the former is serious and substantial, the latter is bound, even under the most favourable circumstances, to be small. When we recall, further, the danger of reprisals on the part of foreign countries, the probability that our duties would expand both in number and amount, and the stimulus they would afford to the advocates of general protection, there can be little doubt that, as a matter of plain business, the policy of Imperial Preference would be an unprofitable one to the people of these islands." (P. 93).

The Great War of 1914-18 gave a great impetus to the policy of consolidating the Empire and the question of Imperial Preference began to be re-examined in this light. The Imperial War Conference of 1917 passed the following resolution :

"The time has arrived when all possible encouragement should be given to the development of Imperial resources, and especially to making the Empire independent of other countries in respect of food supplies, raw materials, and essential industries."

A beginning was made by the United Kingdom in 1919 when, without altering its general tariff policy, it granted to the whole Empire preferential rates, which were usually five-sixths or two-thirds of the full rate, on nearly all articles on which import duties were levied.

The Ottawa Trade Agreements were concluded in 1932. The Ottawa

Before the outbreak of the present war, world trade was carried on under a complicated system of protective duties; quotas; conventions; prohibitions; barter, clearing and other agreements; and exchange control. There was opposition to the Ottawa Trade Agreement in India when it was first concluded (1932). But under such conditions as developed later, it was impossible for India to stand alone.

Economic blocs.—Before 1932 our trade was multi-lateral, that is, we showed no preference to goods of Empire origin, or adopted no special measures to develop our trade with particular countries. The trade balancing was triangular, that is, we paid our debts to the United Kingdom by means of surplus exports to foreign countries (countries outside the British Empire). Between 1929 and 1939 the conditions of world trade profoundly changed. Multi-lateral trade largely vanished. World markets disintegrated and international trade passed under the control of economic blocs. Empire trade became more important in the case of such countries as the United Kingdom, France, the Netherlands and Italy. Such trade, as in our own case, was encouraged by preferential duties. 'Currency blocs,' such as the 'sterling bloc,' or the 'yen bloc' have also encouraged trade between certain countries. Further, the institution of exchange control and exchange clearing has stimulated the bilateral balancing of trade.

Conference, in taking note of the trade agreements, recorded its conviction: "That by the lowering or removal of barriers among themselves provided for in these agreements, the flow of trade between the various countries of the Empire will be facilitated, and that by consequent increase of purchasing power of their peoples, the trade of the world will also be stimulated and increased." The Ottawa Trade Agreements certainly stimulated the formation of other economic blocs.

The Ottawa Conference also adopted a resolution concerning industrial co-operation between various parts of the Commonwealth. The object of industrial co-operation was to "secure the best division of industrial activities among the several parts of the Commonwealth and the ordered economic development of each part with a view to ensuring the maximum efficiency and economy of production and distribution."

No scheme of such Imperial division of industrial activities was, however, worked out.

The most important 'economic blocs' are shown below:—

Country	Economic 'bloc.'
United Kingdom (a) ...	British Commonwealth, colonies, protectorates, etc.
France ...	Other countries of the 'sterling bloc' (b). French colonies, protectorates and mandated territories.
Belgium ...	Belgian Congo.
Netherlands ...	Netherlands oversea territories.
Italy ...	Italian colonies and Ethiopia.
Portugal ...	Portuguese oversea territories.
Japan (a) ...	Korea, Formosa, Kwantung, Manchuria.
Germany ...	Six countries of South-Eastern Europe (c) Latin America.

(a) General trade.

(b) Sweden, Norway, Finland. Denmark, Egypt, Estonia, Latvia, Thailand and Iraq.

(c) Bulgaria, Greece, Hungary, Rumania and Yugoslavia.

Two distinct commercial policies were followed. Countries like Germany organised their trade bilaterally through clearings and quantitative control of imports; they closely regulated their foreign exchanges, and encouraged exports by means of subsidies. Other countries, typified by the United States of America, restricted their imports by tariffs rather than by quantitative quotas, but left their foreign exchanges free.

Of control of imports through quantitative quotas an Indian example will suffice. By the terms of the trade agreement with Japan concluded in 1937, we undertook to import 283 million yards of Japanese cotton piece-goods on the condition of Japan buying from us 1 million bales of raw cotton. In the event of Japan importing $1\frac{1}{2}$ million bales of raw cotton from India she is allowed to increase her exports of piece-goods to India to 358 million yards, but not beyond this quota.

In the year 1937, of the total value of imports into France 58 per cent, into Switzerland 52 per cent, into the Netherlands 26 per cent. and into Belgium 24 per cent were subject to licence or quota restrictions.

In the year 1936-37 the clearing system governed about 90 per cent of German trade. A clearing agreement is concluded between two countries and is a method of adjusting

exports and imports. In the so-called 'English System' of clearing, first established in the Anglo-German Agreement of 1934, imports bore a definite proportion to the receipts from exports in a preceding period. According to an agreement concluded between Germany and Denmark, German purchasers of Danish goods in the second quarter of 1937 were to be proportioned to Danish imports from Germany in the first quarter. The basic idea of clearing agreements is the balancing of exports and imports between two countries; clearing agreements encourage bilateral trade.

When a clearing agreement has been made between two countries, a central authority (usually the Central bank) receives payment for imports from, and disburses payment for exports to, the other country.

Payment Agreements.—Payment agreements represent an extension of clearing agreements. Clearing agreements relate to trade in commodities, to exports and imports of goods. When clearing arrangements include arrears of commercial debt, payments on account of tourist traffic, remittances of capital abroad (e.g., Jewish payments to Palestine), and interest on foreign loans, they are known as 'payment agreements.'

Export Stimulation.—The German Government stimulated exports by means of direct subsidies and monetary measures.

The resources for the grant of subsidies were obtained through industrial taxes. A turnover tax of 2 per cent or 3 per cent was imposed on the home sales of industrial undertakings and also on gas and electricity consumption. The annual yield of this tax was RM. 700-800 millions, and this sum was used to subsidise exports.

The monetary measures consisted principally in differential exchange rates for different classes of purchasers of German goods. German currency was sold cheaper than the official rate to tourists to encourage them to visit Germany. The Asaki marks were sold to importers of German goods at discounts (about 20 per cent to 35 per cent below official parity in 1935) depending on the state of trade between Germany and the country in question. 'Asaki' is a coined word like Anzac (Australian and New

Zealand Army Corps).

The rise of the new system of trading and payments is connected with the drive for economic self-sufficiency. In some cases rigorous control of imports was due to the shortage of foreign currency and the need for reducing foreign indebtedness. "There are few countries," says the *World Economic Survey* for 1936-37, "where the strategic element in economic policy is wholly absent at the present time; but, in some, the measures taken to ensure a greater degree of self-sufficiency are more important and more obviously connected with defence preparation than in others."¹² Measures were taken in Germany on the one side to control consumption and avoid waste, and on the other to develop the production of substitute materials. The object of the German Four Year Plan launched at the end of 1936, was to make the Reich "within four years entirely independent of all such raw materials as can in any way be home-produced by means of German ability, or by means of her chemical and mechanical industries, as well as mining."¹³

"The battle of wheat" (*bataglia del grano*) in Italy served the double object of saving Italy from the slavery of foreign bread, as Mussolini put it (*schiavetu dal pane straneiero*), and of reducing Italy's unfavourable balance of payments.

Reciprocity. Retaliation. Most Favoured Nation Clause.—Reciprocity proceeds by mutual concessions. For example, a commercial treaty was concluded between Holland and Luxemburg in 1932 by which the two countries agreed to reduce their tariffs against each other by ten per cent every year for five years. Trade relations between India and the United Kingdom are governed by the principle of reciprocity, which is not without an element of unconscious humour in its application to shipping. Ships registered in the United Kingdom cannot be subjected by law in British India to any discrimination whatsoever as regards the ship, officers or crew, or her passengers and cargo, to which ships registered in British India are not subjected in the United Kingdom. There are no Indian ships engaged in the British coastal trade.

¹² P. 149.

¹³ *Ibid.*, p. 153.

Retaliation signifies a tariff war. When the 'most favoured nation clause' is inserted in a commercial treaty, the one contracting nation, say A, guarantees to extend to the other nation, say B, the benefits conceded to any third nation or nations. B is thus treated by A as the 'most favoured nation.'

A most 'favoured nation' agreement may be bilateral, or unilateral; it may be conditional, or unconditional. When such an agreement is conditional, country A extends to country C the concession granted by it to country B for a consideration, only if C makes concessions to A equivalent to those made by B to A.

The most-favoured-nation principle safeguarded the interests of free trade countries in their trade with protectionist countries.

CHAPTER XXXI

ANTICIPATORY REVENUE. PUBLIC LOANS

Public credit is the source of anticipatory revenue, or government loans. The loans may be repayable in short periods of less than a year (e.g., Treasury bills), or at the end of several or many years, or they may be non-terminable.

There are three main objects of public borrowing :—

- (1) To cover a casual deficit.
- (2) To provide funds for industrial investment.
- (3) To provide funds for an emergency.

A budget deficit may be met by a public loan when it is not considered desirable to increase taxation. During the course of a year government fills temporary gaps between income and expenditure by issuing Treasury bills.

In all countries, including the Soviet Union, the proceeds of public loans are also utilised for financing public industrial undertakings. Taxation could not have provided the funds required for the construction of our railways and canals. Such loans are called productive, and they are not a burden to a country.

1. FUNDS FOR EMERGENCIES

By far the most important cause of the growth of public debt is war. The Great War added £7,000 millions to the British Public Debt.

There are three chief methods of meeting the demand for money due to an emergency :

- (i) The levy of new taxes and raising the rate of existing taxes.
- (ii) The accumulation of a hoard which can be used

when the emergency arises.

(iii) Public Loans.

In ancient India special measures were adopted for the 'replenishment of the treasury' in emergencies. "The king," says Kautilya, "who finds himself in a great financial trouble and needs money, may collect (revenue by demand)." Kautilya allowed the king to demand from parts of the country which were 'rich in grain' one-third or one-fourth of their grain. But this demand was not to be extended to tracts of 'middle or low quality,' nor to people who were of great help in the construction of fortifications, gardens, buildings, roads for traffic, colonisation of waste lands, exploitation of mines, and formation of forest preserves of timbers and elephants; nor to people who had not enough subsistence (अल्प प्राणं). The king was also to avoid the property of forest tribes as well as of Brahmans learned in the Vedas.¹

Kautilya gives details of demands in an emergency on various classes of the population, some of which are interesting :

"Acrobats and prostitutes shall pay half of their wages. (कुशीलवारुपाजीवाश्च येतनार्धदद्याः) The entire property of goldsmiths shall be taken possession of; and no offence of theirs shall be forgiven, for they carry on their fraudulent trade while pretending at the same time to be honest and innocent."²

This may seem rather hard on goldsmiths, but they fully deserved this treatment if they were only half as fraudulent in their dealings as their descendants to-day.

When such demands were not made, public subscriptions were raised to replenish the Treasury.³

¹ Kautilya's *Arthshastra* by R. Shamasastry, p. 292.

² *Ibid.*, p. 293.

³ "Such demands shall be made only once and never twice. When such demands are not made, the collector-general shall seek subscriptions from citizens and country people alike under false pretences of carrying on this or that kind of business. Persons taken in concert shall publicly pay handsome donations, and with this example the king may demand of others among his subjects. Spies posing as citizens shall revile those who

Kautilya also suggested questionable methods of exploiting the credulity of the people for the same object.⁴

The second method of meeting extraordinary expenditure in an emergency, the accumulation of a hoard, was also widely practised in past times. Johan van Twist devotes a whole chapter (XVI) in his *Generale Beschrijvinghe Van Indian* (General Description of India)⁵ to 'The Wealth of the Kings of Hindustan.' He estimates the total value of the property owned by Shah Jehan at Rs. 34,82,26,386. Of this sum Rs. 9,75,80,000 was in gold, Rs. 10,00,00,000 in rupees coined in the time of Akbar, Rs. 6,05,20,000 in diamonds, rubies and other precious stones and pearls; Rs. 7,68,666½ in pice at the rate of 30 'Peys' to the rupee, and Rs. 1,90,06,785 in *objets d'art*; the rest represented property in the form of household goods, tents, books, guns and ammunition, swords, spears and shields, saddlery,

pay less. Wealthy persons may be requested to give as much of their gold as they can. Those who, of their own accord or with the intention of doing good, offer their wealth to the king, shall be honoured with a rank in the court, an umbrella, or a turban or some ornaments in return for their gold." (*Arthashastra*, p. 293.)

"Or by causing a false panic owing to the arrival of an evil spirit on a tree in the city, wherein a man is hidden making all sorts of devilish noises, the king's spies, under the guise of ascetics, may collect money (with a view to propitiate the evil spirit and send it back).

"Or spies may call spectators to see a serpent with numberless heads in a well connected with a subterranean passage, and collect fees from them for the sight. Or they may place in a borehole made in the body of an image of a serpent, or in a hole in the corner of a temple, or in the hollow of an ant-hill, a cobra, which is, by diet, rendered unconscious, and call upon credulous spectators to see it (on payment of a certain amount of fee). As to persons who are not by nature credulous, spies may sprinkle over, or give a drink of, such sacred water as is mixed with anæsthetic ingredients, and attribute their insensibility to the curse of gods. Or by causing an outcaste person (*abhityakta*) to be bitten by a cobra, spies may collect revenue under the pretext of undertaking remedial measures against ominous phenomena.

"Or one of the king's spies, in the garb of a merchant, may become a partner of a rich merchant and carry on trade in concert with him. As soon as a considerable amount of money has been gathered as sale proceeds, deposits and loans, he may cause himself to be robbed of the amount." (*Arthashastra*, p. 294.)

⁵ The copy that I possess was printed in Batavia in the year 1638.

horses, elephants, etc. Van Twist says in conclusion :

"No one should wonder that these kings possess such treasures, because all the wealth of princes who have ruled over India for a long time has come from their predecessors. These treasures are daily increasing ; for although there are neither gold nor silver mines here, they [gold and silver] are imported in large quantities from abroad, and they are not permitted to be exported."

Two chief emergencies were to be provided against in past times in India—war and famine.

A modern war is a far more costly business than war in old times. Shah Jehan's wealth, amounting to about 35 crores of rupees, would suffice for the war expenditure of the United Kingdom for little more than two days !

No accumulation of budget surpluses would enable a government to finance a modern war. It is also clear that war expenditure to the amount of £4,000 million per annum cannot be met by the levy of new taxes by or raising the rates of existing taxes.

The national income of the United Kingdom for 1940 is estimated at £5,500 millions. If the whole cost of the war in a year, about £4,000 millions, was to be met by taxation of income, about £1,500 would be left for the necessary consumption of the population. This is less than allowances to secure "essentials," which are put at £1,800 millions by Mr. J. Keith Horsefield.⁶ And there would be nothing available for replacing worn-out capital and for making new additions to capital.

But why should taxation rest on income alone ? Why should not capital itself be taxed ?

A levy on capital is to be distinguished from a tax on income. Capital is *static* wealth, or a fund of wealth. It exists in such forms as lands, factories, ships, railways and investments on the one hand, and personal property in such forms as furniture, jewellery, racing-horses, motor-cars and clothing on the other. Capitalised value of earned income does not come within the scope of a levy on capital.

Suppose the State taxes all capital, once for all, at the

⁶ *The Real Cost of the War* (Penguin Special), p. 83.

rate of 25 per cent. Then all owners of property have to part with one-fourth of their possessions, whether these possessions are income yielding, e.g., factories or land, or personal belongings, e.g., jewellery, which yield no income. How will the tax be paid?

Some people may pay the tax out of their income, but many would be forced to sell part of their property. The result would be a heavy fall in the value of property. There would be many sellers and few buyers.

If this tax may be paid in various forms of capital, government would acquire land, factories, ships, etc. Government may sell them or use them to get revenue.

The levy on capital was much discussed in the United Kingdom at the end of the Great War as a means of paying off the National Debt. It is generally admitted that it is not a suitable means of financing a war while it is going on. A levy on capital during a war would impede war effort by disorganising trade and industry, and causing a heavy fall in the value of property.

If we rule out the levy on capital, and if the proceeds of income taxation are insufficient to meet the cost of war, recourse must be had to borrowing.

2. CLASSIFICATION OF PUBLIC DEBTS

A public loan is productive when, as in the case of our railway debt, it is represented by income yielding assets of equal value.

War debt is unproductive. It is also called 'dead-weight' debt. Interest on productive debt is paid out of income derived from the assets which cover it. Interest on unproductive debt has to be paid out of taxation.

A public loan may be voluntary or forced. No one is compelled to subscribe to a voluntary loan, but when questionable methods are employed to get subscriptions to a loan, it ceases to be voluntary. It is stated that State loans in the Soviet Union possess an obligatory character.⁷

⁷ D. Basily says: "The obligatory character of these loans is not recognised, but is none the less real. Whenever a loan is announced—and

Currency inflation as a means of financing war expenditure amounts to a forced loan. Government can create any amount of inconvertible paper money and use it for gaining control over commodities and services. The worst sufferers in an inflation are 'fixed incomists,' as we have seen. The path of currency inflation is easy to tread, but dangerous, and great care is being taken in the United Kingdom at the present time to avoid inflation.

Loans may be internal or external. External war loans impose a real burden on the community, for until repaid, interest has to be paid to the foreigner out of taxation. Internal loans are less of a burden, for the payment of interest only implies a redistribution of wealth within the country, that is between tax-payers and creditors. When the greater burden of taxation rests on the richer classes, who are also the chief holders of Government securities, they receive in the form of interest what they pay in the form of taxes. If the main burden of taxation rests on the poorer sections of the community, a heavy load of unproductive or dead-weight debt increases the inequality of incomes.

Public loans may also be classified as funded, unfunded and floating. Sometimes non-terminable debt alone is called funded debt. Floating debt is debt which is repayable within a short period, usually of less than a year, e.g., Treasury bills; loans embodied in stock and repayable by dates more than a year ahead, are called funded debts. Funded debts would thus include non-terminable loans. When a termin-

this happens at least once a year—a quota is established for each of the republics in the federation, and for each province, and subsequently for each district. Then a campaign is started for actually securing the subscription of these quotas. The trade union officials fix the percentage of the wages which various categories of workers and employers are invited to contribute. Their subscription is generally the equivalent of a month's or a fortnight's pay, and is payable by instalments spread over the following twelve months. These contributions are deducted from the wages simultaneously with the social insurance payments, etc. The compulsory character of these loans is aggravated by the fact that it is impossible to sell the securities subscribed for, except with the consent of the "Special Commission for supporting Credit of the State," which permission is very seldom granted." (*Russia under Soviet Rule*, pp. 337-38.)

able loan falls due, it becomes a floating debt. It is not considered advisable for a government to have a large amount of floating obligations.

In war-time, in order to make their loans attractive, governments offer other advantages in addition to an attractive rate of interest. A loan may be issued below par while it is repayable at par. This means the right to receive Rs. 100 when the loan is repaid, while the creditor advanced less than Rs. 100. A loan may be tax-free, or government may exempt interest on the loan from the income-tax. A loan may be issued at par but redeemed at a premium. A loan issued at, say, 3 per cent, may carry with it the right to conversion into a subsequent loan if issued at a higher rate of interest. Or the holder of a government loan may be permitted to use the stock or bonds in which it is embodied in payment of taxes at a price above the market price of the stock or bonds. Victory Bonds were issued by the British Government during the Great War at 15 per cent below par (£85 for a bond of £100), and these bonds were accepted at their face value in payment of death duties.

Why is it necessary to make war loans attractive by such concessions? Experience has shown that appeals to patriotism do not always suffice. A French writer says: "France tried to float patriotic loans in 1789, 1831 and 1848. These attempts failed miserably. Only this much can be said that in many countries the patriotic sentiment contributes to the success of a loan when the advantages offered to the public are not very considerable. And even this is not at all certain."⁸

3. REDUCTION OF NATIONAL DEBT

The chief methods employed are the following:—

(1) *Budget Surpluses*.—When the National Debt amounts to several thousand million pounds, the reduction effected by this means is so small as to be negligible.

(2) *Taxation*.—There are also definite limits to extra taxation for paying off the National Debt.

⁸ Jèze quoted by B. Foeldes in *Finanzwissenschaft* (1920), p. 631.

(3) *Purchase of Stock*.—When the loan is repayable by a fixed date, it does not mean that government may not repay it at an earlier date. When government is able to borrow at a lower rate in order to purchase stock carrying a higher rate of interest, a saving is effected in interest charges. At any time government may buy its own stock and cancel it, thus reducing the amount of debt.

(4) *Conversion*.—This method of reducing interest charges has been already mentioned. A holder of stock who refuses to have his stock converted is repaid the amount lent by him.

(5) *Terminable annuities*.—An annuity is an annual payment for a definite period, or for life. When a non-terminable loan is converted into a terminable annuity, a permanent debt is converted into a temporary debt. The amount of the annual payment, since it will not continue for ever, is greater than the rate of interest allowed on the loan.

(6) *Sinking Fund*.—When a loan is issued, provision may be made for its repayment by establishing a fund to which annual contributions are made out of the budget. These contributions are so calculated that, invested at compound interest, they will, at the end of a given period, be equal to the amount of the loan.

(7) *Capital Levy*.—It is not unlikely that at the end of the present war a levy on capital will again be proposed as the only means of reducing the burden of debt.

We have seen that there are objections to a capital levy during war-time. The objections are less strong for a levy immediately at the conclusion of war when prices are high.

(1) It is argued that a levy on capital will bring down the value of securities. But it is not necessary that it should have that effect. The tax may be paid in securities. When Government securities are used to pay the tax, so much Government debt is automatically cancelled.

(2) The levy need not cripple businesses. Payment may be made by instalments spread over a number of years.

(3) A levy made once for all will not discourage future saving. On the other hand, it is argued, there may be greater inducement to save after the levy, for the taxation of unearned incomes could be lowered after the National Debt had been paid off.

It cannot be denied that the levy would be discriminative, for it would tax past savings, while large incomes earned by professional men as doctors, lawyers, and others, would not be touched.

* The present war might well double the National Debts of the belligerent States. A capital levy may be likened to a surgical operation. It is a drastic remedy, but there is no alternative to it, except repudiation.

4. REAL COST OF WAR

The money cost of war is measured by increase in government expenditure over and above peace-time expenditure. The extra expenditure may be financed either by loans or taxation, or by both methods.

The real cost of war consists in the men and material lost during a war, and in what the men and material employed for war purposes would have otherwise produced. More battle-ships, bombing 'planes and other war-equipment mean less factories, tools and implements for the production of necessities, comforts and luxuries.

Because of the war being waged now, there will be fewer houses, factory buildings and other indirect goods for the next generation. Much capital will be needed at the end of the war to repair the ravages of the war.

It is sometimes argued that apart from this loss, which prosperity shares, the whole real cost of war is borne by the present generation. This is incorrect. Loans transfer part of the real cost of war to posterity.

It is true that 'labour and steel which go into a gun go in now,' that is, when the war is going on. But how are the labour, steel and other raw materials and equipment required for war purposes to be obtained?

Let us simplify the conditions. Suppose war equipment consists only in *lathis*. Government may commandeer all stocks of *lathis* in the country. The real cost of war, then, would rest exclusively on the owners of the *lathi* stocks (we ignore the men lost).

But thousands of finished and unfinished goods are required to wage a modern war. Government cannot get

control over these goods without money. If it started seizing everything without compensation, the entire system of production and exchange would break down. A war may be easily lost by such methods.

A war is waged with existing resources in men and material, but government wants money to acquire these resources. How is the money to be found?

We have seen that it is impossible even for the United Kingdom to meet an expenditure of £4,000 millions a year by taxation alone. J. Keith Horsefield indeed says that "it is not true that we cannot possibly stand the strain of taxation heavy enough to pay for the war at once,"⁹ but he probably knows that it cannot be done without bringing the war effort of the United Kingdom to a standstill. Taxation which absorbed over 70 per cent of the national income, leaving a little less than 30 per cent of the national income for necessary consumption and other purposes, would destroy all incentive to work.

Keeping this aspect of the question in view, government, in war-time, raises as much money as possible by taxation, and for the rest depends on loans.¹⁰ People are asked to

⁹ *The Real Cost of the War*, p. 67.

¹⁰ In the year 1940-41 the total expenditure of the British Government amounted to £3,884 millions and revenue to £1,409 millions, leaving a deficiency of £2,475 millions. The net sum borrowed, during the year, was £2,475 millions.

The excess profits tax in the United Kingdom amounts to 100 per cent, but at the end of the war 20 per cent of the tax would be returned to industry to assist reconstruction.

Taxation of the uppermost grades of income is heavy. Sir Kingsley Wood (Chancellor of the Exchequer) explained in the House of Commons that under the new taxation it would be necessary for an individual to have a gross income of £66,000 in order to enjoy a tax free income of £5,000 a year.

Income-tax and sur-tax rise to 97·5 per cent on the highest incomes.

But British labour is still not satisfied. Class-war is responsible for the mistaken belief that the whole cost of war can be met by taxation. This taxation, it is insisted, is not to be indirect. Indirect taxes, says Mr. Horsefield in *The Real Cost of the War*, "are clearly inequitable" (p. 68).

There are two new features of British war finance. The policy of price stabilisation is being steadily pursued with the object of holding wages at about the present level. Inflation is thus avoided. A rise of

save for patriotic reasons, to cut down their expenditure to a minimum (heavy taxation also has that effect), and to lend their savings to the State.

A community annually produces a given quantity of goods and services. If government expenditure increases, citizens must necessarily restrict their expenditure, barring gifts obtained from foreign countries.

When war expenditure is financed by taxation, a sacrifice is imposed on the tax-payers, who, other things being equal, are required to curtail consumption by the amount of the taxes paid. When a loan is raised instead, posterity will be required to cut down its expenditure to pay interest on the debt and to repay the principal. That is how part of the real cost of a war is shifted by loans to posterity.

Those who lend money to the State may do so out of past savings, or out of current income by cutting down expenditure. Conceivably government may take through taxes what it obtains through voluntary subscriptions. But taxation which assumed the form of loot would cause the sources of income, and of taxation, to dry up.

The real cost of war thus consists of two parts. First, there is the sacrifice of men and material. This is a real cost incurred in the present, but it affects posterity indirectly. Second, there is curtailment of consumption in order to enable the State to acquire control over the goods and services needed for the prosecution of a war. Sacrifice is involved in this process, and this sacrifice is also part of the real cost of war. Real cost in this second form may partly be shifted to posterity through the financing of war expenditure by loans. There was thus nothing wrong about the decision

wages leads to a rise in prices, and a rise of prices to a rise of wages—the 'vicious spiral.'

Secondly, a scheme of compulsory saving, proposed by the well-known economist, J. M. Keynes, is connected with the budget. Under this scheme a graduated percentage of every one's income is compulsorily handed over to the Government. The sums accumulate to the credit of a 'blocked' savings account. The account is 'blocked,' because it can be drawn upon only after the war.

The scheme of compulsory saving is a device for restricting consumption.

taken in England that posterity should sustain part of the burden of the present war.¹¹

So far as real cost represented by the diversion of men and material from productive to war employments is concerned, it is a matter of indifference whether borrowing covers zero per cent or 100 per cent of the money cost of war. But it is not a matter of indifference how government acquires control over human and material resources. In the one case (taxation) the present generation alone has to restrict consumption; in the other case (borrowing) posterity shares in the sacrifice.

It is right and proper that posterity should share the real cost of war in the second sense. If a war is successfully waged for 'freedom and democracy' posterity enjoys the blessings of freedom and democracy. Posterity is still benefited when a war results in the acquisition of colonies useful for settling surplus population, or new and secure markets for manufactures, or valuable sources of raw materials.

¹¹ In its issue of February 15, 1941, the *New Statesman and Nation* wrote:—

"Our economic thinking is still bedevilled by what Mr. Keynes calls the humbug of finance. For example, the confusion about the real and the money cost of the war still goes on. Lord Simon was continuously guilty of the fallacy when Chancellor, and the *Times* has now repeated the error. It was very properly decided long before the outbreak of war, says the *Times*, 'that it would not be just to this generation to ask them to sustain the whole burden.' It may have been properly decided, but the decision was futile. It cannot be too often emphasised that the division between taxation and borrowing has nothing whatever to do with the real burden of the war. If gifts or loans in kind from abroad are ignored, all the real sacrifice is being made now by the people of this country. The labour and steel which go into a gun are going in now, and that labour and steel are being diverted from other potential uses. Whether the gun is paid for by taxation or out of borrowing makes no difference. The future generation will be no better or no worse off, however the financial allocation is made."

SCOPE AND METHOD OF ECONOMICS

1. DEFINITION OF ECONOMICS

According to Marshall, political economy or economics "examines that part of individual and social action which is most closely connected with the attainment and with the use of material requisites of well-being."

This definition implies a connection between economics and material welfare, and Prof. Lionel Robbins says: "Whatever economics is concerned with it is not concerned with the causes of material welfare as such."¹

Economics explains wages, but, Prof. Robbins points out, some wages are "paid for work which has not the remotest bearing on material welfare." In fact some wages are paid for work which reduces human welfare, e.g., provision of noxious goods and services. The reader will recall that we have defined utility as want-satisfying power, and productive activity as creation of utility in this sense. Our definition of utility has no connection with material welfare.

Prof. Robbins' definition may be considered: "Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses." An activity has an economic aspect when it 'involves the relinquishment of the other desired alternatives.'² Production of potatoes is economic activity, for to produce potatoes labour and capital have to be diverted from other uses; production of philosophy is also an economic activity; for, instead of philosophy, something else might have been produced, e.g., potatoes. Briefly, economics is concerned

¹ *The Nature and Significance of Economic Science*, p. 9.

² *Ibid.*, p. 16.

with 'the disposal of scarce means.'³

Prof. Robbins' definition is open to the objection that it has no direct relation to more than one important field of economic activity. A producer or a consumer is directly concerned with the disposal of scarce means. An economist would, therefore, directly, take note of the activities of producers and consumers (including the government) in choosing between various ends and means. But the problems of exchange and distribution would be treated only incidentally. In fact we must assume that prices of goods which consumers may buy, and of factors of production which entrepreneurs may employ, are given, for unless they were known beforehand, neither consumers nor producers could reach decisions regarding ends and scarce means.

If the definition of economics is to steer clear of material welfare we may choose one which brings into prominence the central problem of economics—valuation. The definition of economics as the science of exchange would include within its scope not only exchange and distribution (as we have learnt, distribution is only a form of valuation), but also production and consumption. Following Prof. Joseph Schumpeter, we may view all economic activity as exchange. This is not so paradoxical as it seems, he says.⁴ Economic activity is nothing but a change of economic quantities. Any one who exchanges labour against bread has given up hours of work to acquire bread; a hunter, living all by himself, reduces his stock of ammunition for replenishing his larder.

Thus exchange exists even when we are concerned with the activities of a single, isolated individual.

A great deal of discussion regarding the definition of economics is profitless war of words. For example, according to Prof. Robbins the conception of economics as the study of the causes of material welfare is a 'classificatory conception.' His own conception he describes as 'analytical.' The classificatory conception picks out certain kinds of

³ *The Nature and Significance of Economic Science*, p. 23.

⁴ *Das Wesen und Hauptinhalt der theoretische National Oekonomie* (1908), p. 50.

behaviour; the analytical conception 'focuses attention on a particular *aspect* of behaviour, the form imposed by the influence of sarcasm.'⁵ The distinction between *kinds* of behaviour and *aspects* of behaviour does not seem profoundly significant. It cannot be denied that in both cases we are studying individual and social behaviour pertaining to wealth.

The definition of economics as the study of wealth, or of individual and social action pertaining to wealth, is sufficient for our purposes. Since wealth consists in goods and services which are scarce, we are concerned with 'the disposal of scarce means.' Since economic activity is not carried on for its own sake, in studying the causes of economic activity we are studying the causes of material welfare. That some forms of economic activity do not seem to promote material welfare (e.g., a musical concert) is comparatively of little account.

2. ECONOMICS AND THE EXACT SCIENCES

We have said that economics is not an exact science (Chapter I, Sec. 8). It follows that exact prediction of results is not possible in economics, as it is in the physical sciences.

Prof. Lionel Robbins would appear to think that economic laws possess the same character as other scientific laws. He says: "Economic laws describe inevitable implications. If the data they postulate are given, then the consequences they predict necessarily follow. In this sense they are on the same footing as other scientific laws, and as little capable of 'suspension.'"⁶

Prof. Robbins however recognises that "if other things do not remain unchanged, the consequences predicted do not necessarily follow." The inevitability of economic laws is thus dependent on other things remaining equal, or on *ceteris paribus*. Since other things never remain unchanged in the economic world, the inevitability of economic laws ceases to have any meaning.

⁵ Robbins, *loc. cit.*, pp. 16-17.

⁶ *loc. cit.*, p. 121.

We have employed curves to explain the idea of equilibrium. Given the point of intersection of supply and demand curves, we know the equilibrium price. But the character of curves in economics should not be misunderstood. They are hypothetical and they serve a purely illustrative purpose. A supply curve represents a supply schedule and a demand curve a demand schedule. Both schedules are imaginary. In the actual world, supply and demand schedules change from moment to moment. The effects on price that we can read off in a diagram are supposititious effects. They are not inevitable since our assumptions may not be true.⁷

There are two laws of fundamental importance in economics which are exact, the law of diminishing return from land, and the law of diminishing marginal utility. But they are not economic laws. Economics borrows the law of diminishing return from the physical sciences, and that of diminishing marginal utility from psychology.

3. ECONOMICS AND PSYCHOLOGY

For economics the law of diminishing marginal utility is a datum. We are so constituted, psychologically (or physiologically) that, as the consumption of a good increases, total utility increases at a diminishing rate. We make use of this datum to explain various economic phenomena.

Prof. Gustav Cassel prefers to talk of prices, not values, and he believes that 'the whole of the so-called theory of value ought to be discarded in economics.'⁸ But economics cannot so easily forget its debt to psychology. Price-determination pre-supposes valuation. If supply increases,

⁷ Prof. L. Robbins says: "All this becomes particularly clear if we consider the procedure of diagrammatic analysis. Suppose, for example, we wish to exhibit the effects on price of the imposition of a small tax. We make certain suppositions as regards the elasticity of demand, certain suppositions as regards the cost functions, embody these in the usual diagram, and we can at once read off, as it were, the effects on the price. They are implied in the original suppositions. The diagram has simply made explicit the concealed implication." (*The Nature and Significance of Economic Science*, p. 122.)

⁸ *Theory of Social Economy*, vol. I., p. 49.

demand remaining the same, price falls. Why? Because the marginal utility of the supply falls. There is no getting away from this fact. Valuation can exist independently of prices, but not prices without valuation.

We may acknowledge our debt to psychology without going so far as Jevons who thought that economics was 'entirely based on a calculus of pleasure and pain.'

4. ECONOMICS AND ETHICS

The pure science of economics lays emphasis on 'the neutrality of the theory of equilibrium.' It does not frame propositions involving the verb 'ought.' It examines what is.

That is not how we have dealt with our subject matter. We have occupied ourselves with questions of right production and distribution of wealth, of an ideal of economic development. In practice it is difficult to separate positive from normative economics, or both from applied economics.

An economic equilibrium, viewed as just an equilibrium, is not an exciting theme. It is when we decide, on ethical grounds, that an existing equilibrium should go, and set about devising means of replacing it by an equilibrium more in consonance with our ideals of social justice, that the study of economics bears most fruit.

5. ECONOMICS AND POLITICS

Even the pure science of economics would have to take note of the legal and political framework within which economic activities take place. In the sphere of applied economics the connection between the activities of the State and economic activities is a most intimate one.

Public finance is entirely concerned with the State, and it belongs equally to the spheres of economics and politics. Under State-capitalism and State-controlled capitalism State action determines all economic activity, directly or indirectly. Even under capitalism, as we have seen, State action exerts a profound influence on all forms of valuation.

Economics and politics are two intertwined branches of sociology, though economics is concerned with man in his social as distinguished from his political relations.

6. ECONOMICS AND ECONOMIC HISTORY

The spheres of the theory of economics and of economic history are distinct. Economic history describes particular, concrete facts; economic theory seeks to establish general laws.

Much of what is mis-called Indian Economics is really economic history of India. It describes Indian economic organisation and attempts to understand Indian economic life. It is not concerned with the establishment of general laws of economic activity.

But while the spheres of economic theory and economic history are different, the two assist each other in many ways. Economic history could not be fully understood without the aid of economic theory. Armed with the knowledge of theory the economic historian not only relates what happened but is able to explain why it happened.

For example, between 1861 and 1905 our agricultural prices fluctuated with the seasons, but after 1905 new forces came into operation which raised prices to famine levels without actual famine. A knowledge of the quantity theory of money is helpful in understanding the movement of Indian prices.

Without a knowledge of the theory of foreign exchanges one could not understand the fluctuations in the gold value of the rupee since 1873.

The law of population explains the peculiar movement of our population. Numerous other examples could be given. Studied without the aid of theory economic history would become an incoherent, unintelligent mass of facts.

Economic history also renders valuable aid to economic theory: (a) it is useful for illustrating and testing theoretical conclusions, (b) it teaches the relativity of economic doctrines, and (c) it provides materials for establishing theories.

(a) Having reached the conclusion on theoretical grounds that changes in the quantity of money lead to changes in the general level of prices, we turn to economic history for verification. We study facts to determine whether the worker grows poorer in the *absolute* sense as capitalism develops.

Russia has provided abundant material for testing the validity of Marxism.

(b) The older economists were wont to assume that economic laws possessed universal validity. A study of economic history shows that economic laws are not unconditionally true for all times, all places and all peoples. They are not like the law of gravitation.

Where custom is more powerful in its effects than competition, conclusions of *laissez faire* economics would not apply.

The relativity of economic doctrines is of special significance in the field of applied economics. Not long ago free trade was regarded as a universally valid deduction from immutable economic principles. Not so to-day. Fiscal or monetary arrangements suitable for one country may be unsuitable for another country, and for the same country at another time, or under different conditions.

(c) Some examples of economic theories established by economic history are the following: the effects of machinery on employment and wages; the occurrence and regulation of trade fluctuations; the consequences of over-issue of paper money; the action of bad money in driving good money out of circulation and the law of population growth.

7. METHODS OF ECONOMIC INVESTIGATION

There are two chief methods employed, deduction and induction. "Induction and deduction are both needed for scientific thought as the right and left foot are both needed for walking."⁹

Deduction is reasoning from the general to the particular. Having established certain premises, we draw a conclusion

⁹ Schmoller quoted by Dr. Alfred Marshall, in *Principles*, p. 29

based on them. For example, if all men are mortal and if Socrates is a man, then the conclusion inevitably follows that Socrates is mortal.

In inductive reasoning we proceed from the particular to the general. On the basis of observation and experiments we conclude that cork floats in water.

While both induction and deduction are needed for scientific thought, in some branches of economics deduction is more useful, and in others, induction.

Economists have so far relied mainly on deductive analysis in explaining valuation, or the pricing process, in all its forms, and also the incidence of taxes.

Inductive methods are more useful in studying the variation of wages with prices, the stimulus of piece-wages, the relative advantages of large- and small-scale production and the influences which determine the degree of productiveness of labour and capital. Malthus founded his generalisations regarding the growth of population on an extensive induction study.

One or two examples must suffice to show the utility of using both induction and deduction in certain fields of economic investigation. Reasoning deductively we conclude that where risk is high the rate of interest should be high; facts confirm this conclusion. Deductive reasoning, supported by facts, establishes the universal decay of cottage industries as machine competition develops. Engels' law states that the proportion of total income spent on food tends to fall as income rises. The study of family budgets furnishes the inductive proof.

Wherever possible the accuracy of conclusions based on abstract reasoning should be tested by reference to facts.

8. ECONOMICS AND STATISTICS

Many economic problems have a quantitative aspect. For example, there is a connection between the price of a commodity and the demand for it. It is quite possible for an economist to shut himself up in his study and, without any quantitative data before him, to formulate a law of demand. But the problem is statistical. The relation of marginal cost

to price is also a quantitative problem, and we should feel more confident about our theoretical conclusions if they were confirmed by a quantitative analysis. The field for the application of statistics and statistical methods to economic problems is extensive. They may be applied to individual businesses, to matters of general business growth and decline, to questions of social economy (poverty and crime, consumption of goods and spending of income, movements of population, distribution of wealth and income, etc.), to State administration and policy (e.g., price fixing and fiscal arrangements generally) and, last but not least, to questions of economic theory.

"The science of economics," says Scrist, "is becoming statistical in its methods."¹⁰ The quantitative study of economic problems is attracting much attention in the United States.

"Gradually economics will become a quantitative science," says Wesley Clair Mitchell. "It will be less concerned with puzzles about economic motives and more concerned about the objective validity of the account it gives of economic processes."¹¹

"To a greater extent than ever before," says F. C. Mills, "economists are to-day seeking to secure the accuracy and precision which quantitative methods ensure. Induction in a quantitative science of economics involves the handling of numerical facts in the mass; its methods must be statistical."¹²

The new trend of economics fails to please pure economists. But they have flogged the horse of deduction to death. The hope of re-establishing the credit of economics (economics to-day is a very much discredited science) lies in patiently collecting facts and reviewing the whole field of deductive economics in the light of these facts—not in juggling with words, the multiplication of useless terms, and quibbling and hair-splitting.

¹⁰ *An Introduction to Statistical Methods* by Horace Scrist, p. 17.

¹¹ *Trend of Economics*, edited by R. Tugwell, p. 27.

¹² *Ibid.*, p. 67.

GENERAL APPENDIX B

DEVELOPMENT OF ECONOMIC THOUGHT

Attention may be drawn here to the most important tendencies in the development of economic thought in modern times.

The close of the thirteenth century marked the end of the Middle Ages and the beginning of the modern period. The fourteenth and fifteenth centuries witnessed the struggle for power between the crown on the one hand, and the feudal chiefs on the other. By the beginning of the sixteenth century the feudal system had broken up and the crown had consolidated its position. To maintain its power the central government needed financial resources, and it looked to the growth of trade and industry to provide them.

The Mercantilists.—In its most extreme form the Mercantile doctrine confounded wealth with money. If wealth consists in money alone, the object of government should be so to regulate the balance of trade as to attract a steady and continued flow of the precious metals into a country.

The Mercantilists tended to attach undue importance to (1) the import of precious metals, (2) foreign trade as compared with domestic trade, (3) manufacture as compared with agriculture, and (4) a dense population as an element of national strength. They depended on State-action for the realisation of their aims.

The leading English Mercantilists were Thomas Mun (1571-1641), the author of *England's Treasure by Foreign Trade*; Sir Josiah Child (1630-1699), Sir William Temple (1628-1699) and Charles Davenant (1650-1714). Sir William Temple asked his countrymen to follow the economic policy of the Dutch. Davenant in his *Essay on the Probable Ways*

of making the People Gainers in the Balance of Trade recommended restrictions on colonial commerce.

The Physiocrats.—In contrast with the Mercantilists who believed in active government interference in trade and industry, the Physiocrats wished to reduce legislative activity to a minimum. They regarded agriculture alone as productive; industry was sterile. Nor did they regard trade, whether domestic or foreign, as of much consequence. Exchange meant a transfer of equal values; it produced no real wealth.

The Physiocrats were staunch free traders. Since agriculture alone yielded a 'net product,' their ideal of taxation was the abolition of all taxes, except a single tax levied only on the landed interest.

They thought that free competition resulted in the establishment of a fair price (*bon prix*) which was most advantageous from the point of view of the buyer as well as the seller.

Social phenomena, according to the Physiocrats, were subject to laws, which could be discovered by scientific study.

The leading Physiocrats were Quesnay (1694-1774), Gournay (1712-1759), Dupont de Nemours (1739-1817) and Mercier-Larivière (1720-1794). Turgot (1727-1781) was also an adherent of the Physiocratic School.

Quesnay, author of the *Tableau Economique*, was the leader of the School.

✓ *Laissez faire, laissez passer* is a physiocratic maxim.

The Classical School.—The most important writers of the Classical School are Adam Smith (1723-1790), Ricardo (1772-1823) and J. S. Mill (1806-1873). Of less importance in England are N. W. Senior (1790-1864) who developed the 'abstinence' theory of interest, and J. E. Cairnes (1824-1875) who is, perhaps wrongly, regarded as a disciple of J. S. Mill, but was 'purely Classic,' and J. B. Say (1767-1832) and Frederic Bastiat (1801-1850) in France.

We are not unfamiliar with the names of Adam Smith,

Ricardo and J. S. Mill. Ricardo's theory of rent still holds good, but it is now recognised that in certain cases rent is an element of cost. Ricardo also had a very clear perception of the causes and consequences of the over-issue of paper money. The principles enunciated in the Report of the Bullion Committee, which was largely Ricardo's work, are of fundamental importance in the theory of money.

The economists of the Classical School were supporters of the 'system of natural liberty.' Like the Physiocrats, they were opposed to government intervention in economic matters. The free play of self-interest, they thought, ensured the best results in practice—man's self-interest was God's providence.

Adam Smith never ignored facts in his study, but the method of investigation of the Classical School was mainly deductive. Ricardo's writings, particularly, contain brilliant examples of successful deduction. But the deductive method, while it is indispensable to economic investigation, may be misused. (It was supposed by certain writers of the Classical School that the laws of economics could be deduced from a limited number of hypotheses. Cairnes, for example, stated the following as the ultimate premises of economic science: (i) "the general desire for physical well-being, and for wealth as the means of obtaining it," (ii) "the intellectual power of judging of the efficacy of means to an end, along with the inclination to reach our ends by the easiest and shortest means," (iii) "those propensities which, in conjunction with the physiological conditions of the human frame, determine the laws of population," and (iv) "the physical qualities of the soil and of those natural agents on which the labour and ingenuity of man are employed."

We owe to the Classical School the celebrated conception of an 'economic' man, i.e., a man wholly devoted to the pursuit of wealth and guided in his activities by purely self-regarding motives. To-day economics deals with a man of flesh and blood.

The Austrian School.—The Austrian School, whose leading members were Carl Menger (1840-1921), Wieser

(1851-1926) and ~~Boehm-Bawerk~~ (1851-1914) may also be called the Psychological School. The chief feature of this School is the doctrine of marginal or final utility, and the analysis of cost in terms of utility. W. S. Jevons (1835-1882) in England whole-heartedly espoused this doctrine. J. Schumpeter in Germany, and A. Fetter and J. B. Clark in the United States, and many other prominent economists in other countries, accept the analysis of value in terms of marginal utility. The idea of 'social marginal utility' is that of J. B. Clark.

Marginal utility may also be conceived as utility to the marginal purchaser. The marginal purchaser is a person who, before making any purchase, very carefully considers the matter, and just decides to buy the article in question. According to H. D. Henderson, we all owe a debt of gratitude to marginal purchasers: "It is these worthy people who make the laws of demand work out as we well know they do."¹

The Historical School.—The Historical School represented a reaction against the deductive methods of the Classical School. The extreme members of the Historical School saw no use in economic theory; the moderate adherents of this School insisted on the study of economic history as an aid to the analytical method. The Historical School won its greatest triumphs in Germany. Its leaders were Roscher (1817-1894), Hildebrand (1812-1878) and Knies (1821-1898); other prominent members were L. Brentano, Schmoller (1838-1917) and Wagner (1835-1917). In England, Thorold Rogers (1823-1890) and Cliffe Leslie (1825-1882) were much influenced by the ideas of the Historical School.

Cliffe Leslie denied that labour and capital moved freely from one trade to another even in a country like England. He admitted that the migration of labour and capital in the home trade and international trade had some effect on wages and profits, but he considered this effect in both cases to be "uncertain, irregular, and incalculable." He denied

¹ *Supply and Demand*, p. 46.

that there was an equilisation of wages and profits in the home trade, which the economists of his time took for granted. He also denied that the desire for wealth was the only motive to wealth production. His general conclusion was that the economic conditions of a country which determined the production, distribution and consumption of wealth were "the result of a long evolution in which there has been both continuity and change and of which the economical side is only a particular aspect or phase."

Dr. Alfred Marshall (1842-1924).—Marshall's contribution to economics may be thus briefly summarised:

(1) Marshall has attempted to reconcile the rival claims of cost of production and utility in the determination of value. J. M. Keynes, referring to this attempt, says: "After Marshall's analysis there was nothing more to be said."² But a good deal remains to be said if 'cost' is interpreted as 'real cost' or 'efforts and sacrifices.'

(2) He has introduced the conception of the Margin and Substitution in the discussion of economic equilibrium.

(3) A particularly valuable contribution is the discussion of value in 'long' and 'short' periods. The recognition of the element of time as a factor in economic analysis is due to Marshall.

(4) Marshall has enriched the terminology of economics. 'Internal and external economies,' 'prime and supplementary costs,' 'quasi-rent' and 'consumer's surplus,' are well-known terms. Marshall clearly defined the concept of 'elasticity of demand.' The 'representative firm' plays an important rôle in Marshall's analysis of Normal Profit, but the concept is vague.

The Socialists.—The Socialists are divided into various schools, but there is one common demand of all socialists: collective control of the means of production, distribution and exchange, and a greater measure of social equality to be achieved through this principle of economic reorganisation.

Utopian Socialists.—Karl Marx (1818-1883) employs this

² *Essays in Biography*, p. 222.

term to designate socialists who preceded him, e.g., Robert Owen (1771-1858) and Fourier (1772-1837). St. Amand Bazard (1791-1832), mentioned in the present work, would be called a 'utopian socialist,' for he desired a change to socialism on ethical grounds.

Scientific Socialists.—Marx Engels (1820-1895) and Lenin (1870-1924) may be called 'scientific socialists.' Scientific socialism regards the transformation of a capitalist into a socialist society as 'inevitable' on account of inherent contradictions of capitalism.

Scientific Socialism is based on dialectical materialism, which is founded on Hegelian dialectic. As applied to history dialectical materialism becomes historical materialism.

There are three dialectical principles: (1) the unity of opposites, (2) the passage of quantity into quality, and (3) the negation of the negation. With the help of these principles Marx attempted to predict the future form of society.

Lenin says: "Marx treats the question of communism in the same way as a naturalist would treat the question of the development of, say, a new biological species, if he knew that such and such was its origin, and such and such the direction in which it was changing."³

But economics is not like biology.

When four o'clock white flowers (*Mirabilis Jalapa* or *Gul Abbasi*) are crossed with red, the first generation is always pink flowers. Inbreeding of this generation produces all the three colours in definite ratios: 1 white: 2 pink: 1 red. These ratios are fixed. The hybrids of the first generation, or their offspring, have no choice in the matter.

There is not a single economic law which may be stated with the definiteness and precision of this Mendelian law of inheritance.

Marxism illustrates the weakness of the deductive method, unaided by realistic studies, in its application to economics.

Syndicalism.—Syndicalists and Anarchist-Communists do not believe in centralised, State-controlled production.

³ *Selected Works*, vol. 7, p. 77.

They urge that workers themselves should have the actual control and administration of the industries in which they are engaged. Production in a syndicalist society would be highly decentralised.

The word Syndicalism is derived from the French *syndicat*, (Italian *sindicato*), which means a trade union.

Syndicalism is a revolutionary movement. Syndicalists are opposed to any socialistic action through Parliament. They believe in direct action, and the general strike is their weapon for gaining control of the community's apparatus of production.

The movement originated in France in 1905, and it had some influence in Italy and France. It has made little progress in England.

Guild Socialism.—This is a distinctively English movement, led by G. D. H. Cole. Like the syndicalists, guild socialists are opposed to bureaucratisation of industry, which is inevitable under socialism. Like the syndicalists, guild socialists would entrust the control of industry to associated groups of workmen. Their object is to establish "industrial self-government." But while the syndicalists reject the idea of State interference in industry, the guild socialists would work in co-operation with the State. The guilds which would take over the control of industry and production are to be distinguished from the guilds of the past. The latter were organisations of hand-workers alone; the guilds of the future would include manual as well as mental workers. Briefly, guild socialists aim at abolishing the wage system and introducing self-government in industry through national guilds with the co-operation of the State.

The Mathematical School.—In economics we are often concerned with quantities and investigate the relations between the variations of one quantity and those of another, e.g., the variation of utility with the increase or decrease in the quantity of a commodity consumed, or of supply with price, or of the general level of prices with changes in the quantity of money. But this is not sufficient to make economics a mathematical science. Cournot (1801-1877) pointed out long ago that the object of mathematics is not

merely to calculate numbers ; mathematical analysis is also employed to discover relations between quantities to which numerical values cannot be assigned.

On account of the complex character of the problems with which economics is concerned, there is little hope of discovering economic laws with the help of mathematical equations. Dr. Ingram considered the use of mathematics in economic reasoning 'sterile.'⁴ Marshall relegated the mathematical portion of his work to an appendix, and the diagrammatic treatment to foot-notes.

We are inclined to agree with Prof. Bertrand Nogaro that the scientific method should not be identified with the mathematical method. The method of economics is complex ; we may use mathematics, but it is not always necessary to have recourse to it, nor does recourse to mathematics suffice to give research a scientific character. Prof. Nogaro does not believe in the pretension of the so-called mathematical economists that they have the monopoly of science, and he indignantly protests against the practice of characterising economic researches which are not based on mathematics as 'littéraires' (literary).⁵

The student interested in mathematical economics is referred to *Mathematical Groundwork of Economics*, by A. L. Bowley, and *Mathematical Analysis for Economists* by R.G.D. Allen.

The Neo-Classical School.—The leader of this school is Prof. Lionel Robbins, of the London School of Economics. The writers of this school do not seem to value realistic studies very highly ; their main reliance is on deductive analysis aided by mathematics. It is difficult to say what this school have achieved so far, except criticism which is often futile, but they believe that the whole theory of economics requires reconstruction.⁶

⁴ *History of Political Economy*, p. 177.

⁵ *La Méthode de l'Économie Politique*, Paris, 1939, p. 239.

⁶ In the course of his inaugural lecture, delivered at the London School of Economics, Prof. Lionel Robbins said : " Everywhere men are attacking new problems or criticising existing solutions of old ones. We have

If one may judge from the contents of the *Economica*, the science of economics which is being forged by the Neo-Classical School, (as Prof. Lionel Robbins warned us in 1930) "will not be a body of knowledge accessible to every one"⁷—in fact it will be the privilege of only a very limited number of mathematical economists to understand it.

The School is correctly described as Neo-Classical on account of its outlook. It treats economics as a pure science, and it seems to have unbounded faith in free competition.

The Institutionalists.—Institutionalism may be described as a distinctively American trend in economics.

W. Mitchell, a leading representative of the Institutional School, has defined economics as the science of behaviour, but in the hands of this school economics ceases to be a pure science concerned with economic causes and effects. The Institutionalists study social behaviour with the ultimate object of improving it and evolving a better type of society. Mr. Tugwell, editor of the *Trend of Economics*, refuses to build aspirations for the economic system on Adam Smith's principle of self-love, which he calls 'the most fundamentally anti-social trait that man possesses.'⁸ What is not a virtue but a vice in man cannot be turned into socially beneficial action by 'economic legerdemain.' W. Mitchell believes in the possibility of controlling human behaviour.

Institutions are a form of social behaviour; they may be regarded as crystallised social behaviour. A science of

to go back to the days of Jevons and the utility school to find a period in the history of Economic Thought when economists all over the world were so active or so sceptical. No one is satisfied with what has been done already. No one pretends that what is being done to-day is anything but provisional.".....

"We do not dispute the great conquests of the past. We do not deny that the economists who have gone before have already forged tools of great power and utility. What we dispute rather is the finality of their analysis. As a first approximation? Yes. We will defend it against all the attacks of Philistia. But as a final solution?—No. To accept it as that would be a betrayal of the trust which has been handed on to us." (*Economica* for March, 1930, pp. 15-16.)

⁷ *Economica*, March, 1930, p. 23.

⁸ *The Trend of Economics*, p. 408.

behaviour must therefore be founded on the study of institutions.

The Institutionalists are more interested in welfare than wealth. And that is why no love is lost between the Neo-Classical School and the Institutionalists.

The method of the Institutionalists is inductive and realistic. They lay great emphasis on the statistical study of economic problems. To an analytical economist like Böhm-Bawerk, statistics were merely *Beiwerk*—something which is not essential but only an accessory, or an adjunct. The Institutionalists will decline to discuss economic theory without the aid of statistics.

The charge has been brought against the Institutionalists that they have done little constructive work and that the very considerable literature that they have produced is 'negative and protesting.'⁹ Constructive work is difficult to define. It means all sorts of things—spinning cotton yarn in India, for example. Is spinning the yarn of economic theory, which has no contact with reality, the only form of constructive work?

⁹ *Wirtschaftstheorie der Gegenwart* (Vienna, 1927). Vol. I. p. 52.

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CORRIGENDA

- Page 16 Line 25 *for standarised read standardised.*
.. 44 .. 10 *for workers read worker.*
.. 44 .. 26 *for proleratians read proletarians.*
.. 46 .. 38 *for coal read diamonds.*
.. 54 Diagram *for b read f.*
.. 61 Line 21 *for sclale read scale.*
.. 74 .. 7 *for opoch read epoch.*
.. 95 .. 18 *for ace read place.*
.. 290 .. 25 *for equipmen read equipment.*
.. 345 Last line *for Fig. 65 read Fig. 56.*
.. 362 Line 16 *for 1 million read 19 million.*
.. 411 Diagram *for Fig. 64 read Fig 59.*
.. 494 Line 11 *for Method read Methods.*
.. 621 .. 8 *for effects read affects.*